General Interest

Last Minute Briefs 10
Short Timers from the Editor 11
Matter of Fact 41
On the Legal Side 50
By Albert W. Gray
Washington Reporter 62
By Harold E. Christie

Management

Will the Farm Pasteurizer Bring Back the Producer-Distributor? 16
By Norman Myrick
Five Years of Experience with Bulk Handling 18
By A. C. Fisher
A Committee That Unified a Dairy 40
By A. A. Saunders
Fire Insurance Is Not Enough! 44
By Ernest W. Fair
Let's Talk Accounting 54
By M. J. Kluger

Plant

Industry Problems 36
By R. G. Holland and J. C. White
Truck Topics 42
Improved Babcock Test for Analyzing Homogenized Milk 56
By H. L. Wildasin and E. O. Anderson

Sales

A Sales Program for Cottage Cheese and Sour Cream 46

Special Products

Frozen Isosceles Triangles 28
By T. Waldemar Battz

Associations

Chicago Is Getting Ready for Big Dairy Show and Conventions 32

Where to Buy It

Using Our Separator 74
Wants and For Sales 78
Index of Advertisers 82

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Last Minute Briefs...

Dairy Employees Conference in Toronto

The Mid-States East Coast section of the International Conference of Dairy Employees will meet at Toronto June 27 and 28. An organization sponsored by the International Brotherhood of Teamsters, the Conference is a commendable effort on the part of a labor organization to keep up with the times.

Conference traditionally invites representatives from management to discuss management's viewpoint in labor matters. Richard Nugent, vice-president, General Ice Cream Corporation, was on last year's program. Norman Myrick, editor of the American Milk Review has accepted an invitation to address the Conference this year.

Werner Named Manager of Foundation

Richard Werner, Assistant Executive Director of the Milk Industry Foundation and former Manager of the California Dairy Industry Advisory Board, has been named Associate Executive Director and General Manager of the Milk Industry Foundation.

Col. B. F. Castle remains as Executive Director of the Foundation but will confine most of his activities to the policy-making level.

Weights and Measures Officials Discuss Bulk Handling

Bulk Handling came up for discussion at a meeting of weights and measures officials at Washington in late May. Accuracy of present method of measuring milk in farm tanks was the issue. Use of a stainless steel measuring stick calibrated to individual tank is practice followed now. After discussion the meeting turned the matter over to a sub-committee for further study.

Gallon Jug Stirs Up Cleveland Market

J. J. Lawson, whose cash and carry gallon jug stirred up more dust than somewhat in Akron, Ohio, is reported to have branched out into Cleveland. Reason for move is said to be the introduction of half gallon paper containers in Akron and a price war that left little in the way of profit.

SHORT TIMERS *from the* Editor

Filled Milk is a Threat

FILLED MILK IS THE cloud on the fluid horizon "no bigger than a man's fist." Nevertheless it is a cause for uneasiness. In the back of the milk industry's mind is the picture of oleo and butter, of ice cream and its growing list of vegetable fat competitors such as "mellorine." If these dairy products have been visited with vegetable fat competition, why not milk?

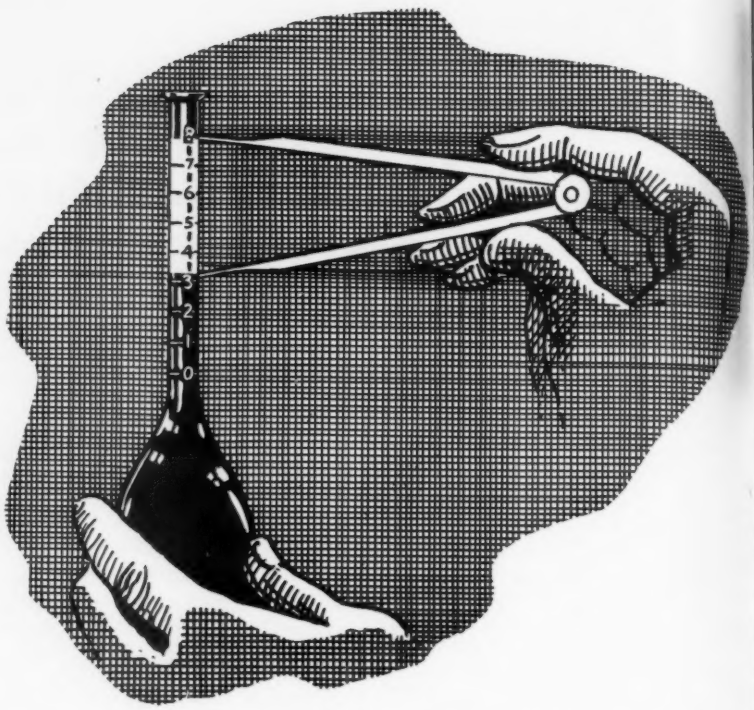
It is difficult to say what course the industry should follow. The root of the problem, of course, is the high price of butterfat. Dr. Zoe E. Anderson in her excellent article, "How Good Is Butterfat" that appears in this issue of the *American Milk Review*, refers to the "economic advantage enjoyed by the manufacturers of processed foods who utilize those solids (milk solids not fat) in combination with vegetable fats." Certainly with butterfat at 70 cents a pound or better there is ample incentive for substitution.

It may be that the answer is to marry the competition as National Dairy Products Corporation has done in its acquisition of certain vegetable oil plants. The policy pursued by the Hapsburgs in marrying dynasties that they could not conquer preserved their empire for nearly a thousand years. This is not a very stimulating prospect, but it may be better than nothing.

About the only thing of which we are sure is that prohibitive legislation is *not* the course to follow. The only real answer to all of these problems of competition from other products is in the market place. The industry is entitled to correct and honest product identification but that is about all. Every product, in the long run, must stand or fall on its own merit.

Dr. Anderson says, "The unique chemical and physical characteristics of butterfat are not duplicated by any other fat." Perhaps that is the beginning of the answer. Perhaps the logical approach is accurate product identification according to law, a more mature, energetic, and comprehensive sales philosophy, and a concerted effort to bring about an alteration in the basis on which milk is purchased—solids not fat should cost more, butterfat less. It is time that the industry took a long, serious look at this new competitor.

Highly digestible, possessed of unique chemical and physical characteristics, butterfat is an important factor in the nutritional value of milk. However, as Dr. Anderson points out, it is carrying more than its fair share of the cost.



HOW GOOD IS BUTTERFAT?

A Nutritionist Explores and Clarifies the Relative Nutritive And Economic Values of Butterfat and Non-fat Milk Solids

By ZOE E. ANDERSON, Ph.D.

Research and Nutrition Service
National Dairy Council

Exclusive feature AMR

Milk, as produced by the cow for man's food use, contains two easily separated fractions—the butterfat and nonfat milk portions. Each fraction has individual nutritive and economic value. Common source and the different nutrient content of each makes both fractions mutually dependent.

These basic facts appear to be overlooked as is evidenced by a decision handed down by the Supreme Court of the State of Wisconsin in mid-January, 1952. In the decision, appears the following statement: "Expert testimony adduced at the trial showed that the butterfat in milk products has no particular nutritive value. The essential elements, as far as nutrition is concerned, are the proteins, minerals, and vitamins which are contained in the skim milk." That statement is in line with a frequently voiced opinion: "The nutritional value of milk is below the cream line." This opinion is echoed in many places, even within the dairy industry.

There is need for a careful analysis of the facts to determine the validity of the above statements. The future economic structure of the dairy industry and the future availability of dairy foods to the American public are mutually involved for a recognized problem lay behind the statements. *Facts* rather than *opinions* will lead to the ultimate solution of the problem.

The Nutritive Value of Butterfat

More than a hundred separate chemical components of milk have been listed in a recent bulletin of the National Research Council. These chemical components plus the energy value of the whole product represent the nutritive value of milk. *Approxi-*

ZOE E. ANDERSON

nately one-third of these chemical components and one-half of the energy value of milk is found in the butterfat portion.

Butterfat contributes one-fourth of the fat in the available food supply of the United States. Fats are our most concentrated form of food energy. Just as electric light bulbs do not give light until they draw energy from the electric current, our bodies cannot live and grow and function normally without energy from food. Fats from all sources, both animal and vegetable, contribute about one-third of the energy in our national food supply.

The food value of fats is not limited to the energy they supply. There is good evidence that fat, consumed as part of the diet: 1) improves the body's use of protein; 2) reduces the body's need for certain of the B-complex vitamins; 3) makes it possible to eat less total food energy without experiencing hunger and fatigue. From a practical standpoint, this means that we need fat in our diets so that: children can grow better; all of us can work harder or recover from illness faster; or we can take off excess body fat more comfortably when that is necessary.

Butterfat is highly digestible. There is evidence that it can be used in the diet of human beings under some conditions where other fats may cause distress.

About one-fifth of the vitamin A in the available food supply of the United States comes from butterfat—in a natural form readily used by the body. Much of the vitamin A in other foods is in a form which is not as well utilized (*i. e.*, the carotene and other precursors of vitamin A found in many vegetable foods).

It must be kept in mind that fats which simulate butterfat approach its nutritive value only because of the addition of vitamin A. This vitamin is essential for normal human growth and health. It has a special function in the outer layers of cells and the skin and eyes, of the respiratory, alimentary, and genito-urinary tracts. It is necessary for sight in darkness and semi-darkness; for proper formation of bones and teeth; and even for reproduction of the human race.

We must depend upon the fats in our diets to supply fatty acids and other fat-soluble nutrients required by the body. Butterfat contains a wider assortment of fatty acids than does any other common food fat. It contains the fatty acid found only in animal fats which can meet all of the body's need for the essential fatty acids. The exact function of the essential fatty acids in the body is not yet known but they are needed for normal growth and for healthy skin. Their concentration in such tissues as heart and kidney suggest they also have a vital function there.

Some of all of the known fat-soluble vitamins (A, D, E, and K) are present in butterfat, though only vitamin A is present in significant amounts. Butterfat also appears to contain an unidentified factor essential for reproduction and the suckling of young.

The unique chemical and physical characteristics of butterfat are not duplicated by any other fat. The flavors which occur naturally in butterfat enhance its own value and improve the palatability of all foods with which it is used.

The importance of the good taste of foods to human beings ought not be underestimated. Foods which are not acceptable to the human palate will not contribute much to man's nutritional needs nor net a profit to him who attempts to market them. Even pills, taken to relieve distress in man, are coated with an acceptable flavor to increase their usefulness.

The human acceptability and the nutritive contribution of butterfat are perhaps best emphasized by a single fact. *Ninety-eight per cent of the butterfat produced in the United States is used as human food.* The only reason this is not one hundred per cent is because the remaining two per cent is used to perpetuate the dairy herd. It is fed to young calves during the first days of life.

The Nutritive Value of the Nonfat Solids

Having established that butterfat has important nutritive value, let us turn our attention to those nutrients found in the nonfat portion of milk (in skim milk).

This portion of milk contains: protein of the highest quality; some of all of the minerals commonly found in foods; some of all known members of the B-complex vitamins; vitamin C; and possibly other factors, not yet identified, which are required by man from his food.

Three-fourths of the calcium in our American diet is supplied by milk and its products. When dairy foods are not used, it is difficult to consume enough calcium to meet estimated body needs. According to a survey by the Bureau of Human Nutrition and Home Economics of the U. S. Department of Agriculture, calcium is the one nutrient most often found to be low in our diets. It is the major mineral present in bones and teeth. In fact, calcium is essential to every living cell. Even our heart beat is dependent upon the presence of calcium.

Dairy foods contribute almost one-half of the riboflavin in our national food supply. Analyses of many diets consumed by all age groups in a number of areas reveal that intake of this nutrient is apt to be low if milk and/or its products are not used regularly in adequate quantities. Riboflavin is needed in order that our body cells might use the energy in the foods we eat.

Milk in all forms contributes more than one-fourth of the protein available in the food supply of the United States. However, this simple statement does not tell the whole story of the value of milk protein to our diets. Protein foods differ in their usefulness to the body because they differ from one another in composition. The protein of milk is efficiently used by the body because of its particular combination of amino acids (the building blocks of body proteins as well as food proteins).

When eaten alone, milk proteins are

superior to vegetable proteins in their value to the individual eating either one. Indeed, milk protein is even superior to many other proteins of animal origin when considered as a sole source of dietary protein. However, foods are not generally used this way and when milk is combined with certain vegetables, cereals, or other animal food products, the total protein value of the meal is frequently enhanced. This is because the different foods contain relatively different amounts of the various amino acids needed to build body proteins. Combining certain of these foods makes a better combination of amino acids available for use by the body.

Closely related to the protein of milk is vitamin B_{12}, a nutrient found in animal food products which is needed for building red blood cells and for growth. The Council on Foods and Nutrition of the American Medical Association recently published a statement emphasizing the importance of cows' milk as a source of this vitamin.

The calcium, riboflavin, and protein content plus the wide assortment of other minerals and vitamins found in the nonfat portion of milk is the basis for considering that this portion makes a unique contribution to our diets. The nutrients in nonfat milk solids cannot be readily duplicated by any combination of natural foods commonly used in this country without too great bulk or energy value in the total diet. Yet, this fact must not be interpreted to mean that the butterfat of milk is without nutritive value. The time-worn phrase, *"Milk is nature's most nearly perfect food" refers to whole milk, not to the nonfat portion alone.*

It is because of the unique contributions of the nonfat portion of milk that increased emphasis has been placed on this fraction in recent years. This fairly new appreciation for nonfat milk solids has developed with increasing knowledge of nutrition which has revealed both the nutrient content of foods and man's nutritional needs.

The Economic Aspects of a Recognized Problem

Development of technical methods for changing or modifying foods has gone hand in hand with increased knowledge of nutrition, stimulated by competition between food producers and processors for the consumer's food dollar.

To compete successfully with established foods, a new or modified food must offer some advantage. It must save labor in the home; possess some special flavor appeal or nutritional value; or it must undersell the established food with which it competes. If there is economic advantage, flavor acceptability, and the nutritional value approximates that of the established food—a new product is "in" with the consumer.

Dairy foods have had continuous and ever-growing competition from modified foods. The ease with which butterfat is separable from the nonfat portion of milk tends to favor such modification. As butterfat is the higher priced fraction of milk and the nonfat portion is more difficult to attempt to duplicate, dairy foods have been modified chiefly with respect to fat content.

The entire economics of the dairy industry has been and is based on butterfat. The farmer is paid on the basis of the butterfat content of his milk. State and federal standards for milk and dairy foods further establish the economic importance of butterfat by requiring minimum amounts which must be present in various dairy foods. This is true chiefly because the consumer has long appreciated butterfat's contribution to his enjoyment of food. The ease with which butterfat is measured has furthered the emphasis placed upon it. Also, the concentration of butterfat in unstandardized milk is a reasonable measure of the concentration of the nonfat solids as well.

DR. ZOE E. ANDERSON

Since her graduation from Lewis Institute in Chicago 13 years ago, Dr. Zoe E. Anderson, Director of the Research and Nutrition Service at the National Dairy Council, has become an authority on human nutrition. Except for a two-year stint with the navy where she served as a Link Trainer and Celestial Link Trainer Operator, she has been engaged in nutritional research and teaching. Dr. Anderson came to the National Dairy Council in September, 1949. She received her Ph.D. from the University of Illinois in 1950.

Because butterfat has borne the lion's share of the cost of dairy foods, modified products developed to compete with established dairy foods have either had a lower butterfat content or contain a cheaper fat.

In order to achieve substitution for butterfat with a cheaper fat, vegetable fats have been treated with hydrogen to duplicate the consistency of butterfat. Artificial flavors, coloring matter, and vitamin A have been added. The final product has been churned with and/or homogenized with nonfat milk solids. The end result has been new food products with flavor acceptability and each with an individual nutritional value equal to the total nutrients contained in the ingredients used. Most importantly, these products can undersell dairy foods which contain butterfat at levels which comply with legal standards for dairy foods. These substitute products are marketed with new names to avoid conflict with legal standards. Their economic advantage has led to their acceptance and purchase by the consumer.

The Problem of Lowered Milk Production

Price is the competitive advantage of food products utilizing vegetable fat or substandard quantities of butterfat. As long as this competition does not jeopardize the market for butterfat, the dairy industry is not seriously affected and milk production can be maintained at levels which meet the dietary needs of our population. While available consumption figures indicate that the per capita consumption of butterfat in all dairy foods has remained about the same since 1920, there is ample evidence of rapid growth in the acceptance of the synthetic products. This may seriously jeopardize the market for butterfat in the near future.

A big drop in the use of butterfat means a lowered total milk production because the farmer will no longer find it profitable to produce milk—unless both the consumer and the dairy industry recognize the special merits of the nonfat portion of milk to the extent that this portion will bear a larger share of the cost of milk production.

Reduced milk production is unde-

(Please Turn to Page 80)

XUM

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HEIL "Coolerized" Tanks make dollars and sense!

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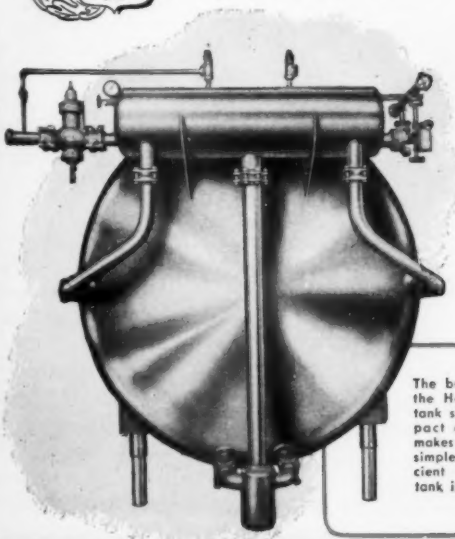
Heil was first with large (5-inch) knuckle radius curves on both inner and outer deep-dished heads, perfect drainage tank bottoms formed of one full-length longitudinal sheet, and many other important contributions to the industry. These developments are incorporated in Heil tanks as soon as they are proven sound and keep Heil Coolerized tanks years ahead!

T-270



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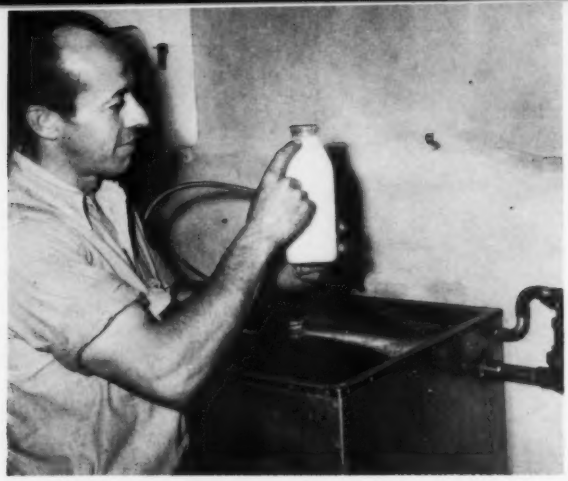
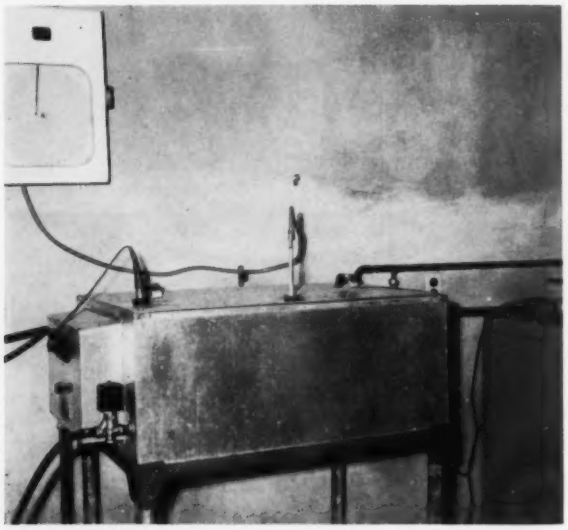
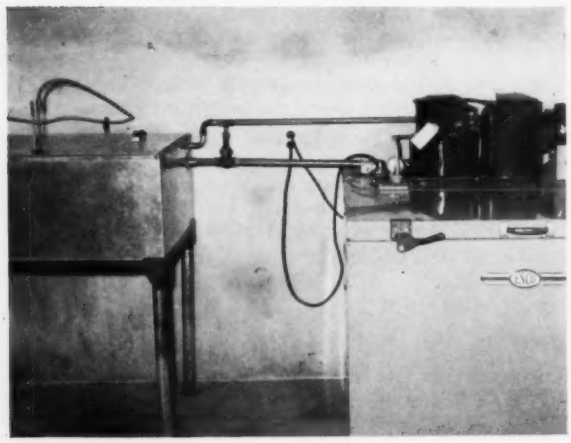


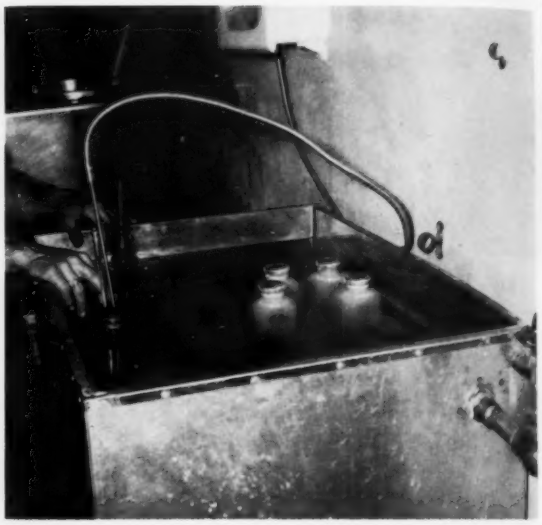
Arthur Libby, in charge of the retail milk operation at Windsway Farms, points to the quart level on the over-sized bottles used in the farm pasteurizer. 130 quarts of milk are distributed three days a week.



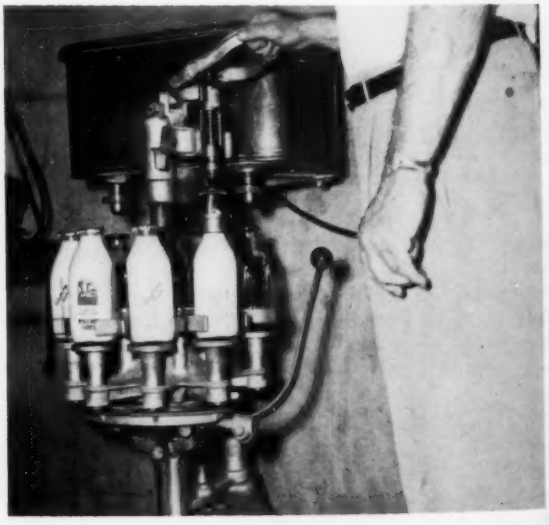
The pasteurizer with the cover down is shown in this photograph. Water is heated electrically. Thermostatic control regulates heating and cooling. Connecticut health authorities worked closely with Windsway Farms on this project.



Can cooler and pasteurizer are connected by pipe lines shown here. When milk has been pasteurized, water from cooler circulates around bottles. Temperature is reduced to 40 degrees.



Pasteurizer with cover off shows depth to which milk is submerged in water. The two control bottles filled with water are shown at the left. Indicating and recording thermometers are used.



Filling is accomplished by means of the hand filler. Four valves are used. Capper is hand operated device shown here. Aluminum caps are a must in this type of operation.

Pasteurizer Bring Back The Producer - Distributor?

By NORMAN MYRICK

Exclusive feature AMR

The farmer-distributor is back in business. Contrary to the trend toward larger processing units and bigger enterprises, new, inexpensive equipment has made it possible for the producer to distribute pasteurized milk.

There are few fluid milk concerns in business today that do not trace their geneology to a farmer who peddled milk in the town near which his farm was located. The huge Abbott enterprise in Philadelphia goes back to George Abbott and his herd of Guernseys. Mallory's in Springfield, Massachusetts had its beginnings in one horse and one wagon. Roelof's in Galesburg, Michigan, Buttrick's in Arlington, Massachusetts, Marcus in Danbury, Connecticut, are other examples of the farmer producer or the one man, one horse, one wagon base on which the modern milk industry was built.

Modern milk handling and processing with its demand for cooling, storage, pasteurization, homogenization, packaging and other activities involved expensive equipment. In order to reduce processing costs and justify the large capital investment the equipment represented, a large volume was required. The milk business inevitably evolved into distinct phases. Producing milk was a specialty. Processing was a specialty. Distributing was a specialty. The farmer-distributor and the very small milk handler declined in numbers in the face of these technical and financial barriers.

No one can say that the new technological development will bring the farmer-producer back. No one can say with authority that the small distributor will become an important factor in the market again. All that can be said, and it can be said with a certainty born of practical demonstration, is that with a capital investment of hardly more than a thousand to fifteen hundred dollars it is possible for a man to set himself up in the milk business. It will be a small business, to be sure. But he can put out a sanitary bottle of milk, pasteurized, attractively packaged, and at a price that will be competitive.

It's Being Done

For a practical demonstration we've got to go up to Essex, Connecticut and take a look at Windsway Farms.

On a magnificent hill overlooking the broad estuary of the Connecticut River the red buildings of a lovely New England farm fit snuggly against the rocky hip bone of the Connecticut countryside. It is not a large farm. There are a dozen fine Guernsey cows and heifers and a thousand or more hens. The milk produced on the farm is distributed on a retail route in the town of Essex. It is a three-day-a-week route with no Sunday delivery. The route averages 130 quarts of pasteurized, high test Guernsey milk a delivery.

The key to the Windsway Farm processing operation is a small "in the bottle" pasteurizer and a hand filler and capper. The equipment is located in the milk house which is not connected with the barn. The milk house is a little larger than most milk houses used by farms of a similar size. There is a can cooler, a washing sink supplied with hot and cold water, a home refrigerator, a drying rack for cans and milking equipment, a small electric farm separator, the hand filler and capper, the pasteurizer, and a recording thermometer. That, plus the cans, bottles, hose, brushes and other accessories comprises the equipment.

The sequence of the processing operation begins with cooling. This is accomplished simply by straining the freshly drawn milk into 20-quart cans and placing the cans in the can cooler. There the milk remains until it is pasteurized.

Pasteurizing is usually done the day before the delivery is made. Since the pasteurizing is an "in-the-bottle" proposition, the first step is filling and capping the bottles. This is done on a hand filler. A four-valve, gravity filler is used. An aluminum cap and a special bottle are required because of the conditions encountered during pasteurization. It was found that paper caps would not stand up under the heat to which they were subjected. Aluminum cap was the solution to this problem. A second challenge and one not as easy to solve was the expansion factor in the milk. When the bottles were filled, capped, and placed in the pasteurizer, it was found that the milk expanded during the 30-minute holding time and caused the caps to bulge. In order to avoid this it was necessary to put slightly less than a quart of milk into the bottles. Under this procedure the expansion factor was con-

(Please Turn to Page 60)

Five Years of Experience with Bulk Handling

By A. C. FISHER

Both "A" and "B" milk are picked up on the Bryant and Chapman routes. This truck has two compartments of 1000 and 600 gallons respectively in order to handle the two types of milk.

INASMUCH as this discussion concerning the bulk handling of milk from farm to market is confined to the Connecticut operations, I feel that I should give you first of all a brief description of the Connecticut milk supply area. Prior to 1940 substantially all of the milk consumed in the State was produced within its borders, and in fact small amounts were exported into other states. During the war years, as milk consumption increased in our state as it did in all other Northeastern markets, much of Connecticut's milk supply east of the Connecticut River moved into the State of Rhode Island. Consequently, to take care of this loss in supply, as well as the additional demand, it was necessary for Connecticut to expand its milkshed. The only possible and practical direction in which this could be done was to the west over into what is commonly known as the Harlem Valley of New York State, which is roughly the territory lying between Connecticut and Massachusetts lines on the east and the Hudson River on the west.

At the present time Connecticut's use of milk totals approximately 720 million pounds per year, of which about 160 million pounds, or about 22%, is imported from other states. Of the total imports, about 70% comes directly from producers, and the balance from plants outside the State. Except for this relatively small amount from plants outside the State, the supply is literally one that is on a direct-delivered plant basis, and all of our prices are set and quoted on an F.O.B. plant basis. There are, in fact, no receiving plants operating within the State, nor even any operating solely for the purpose of supplying Connecticut plants.

The size of our average producer now delivering to Connecticut plants runs approximately 430-450 pounds of milk per day. Actually, however, if Connecticut producers alone were considered in arriving at this average, we would have a figure running approximately 100 pounds per day less than this. In effect, therefore, this points out the fact that the producers now located outside the State are substantially larger than our own dairy farms. Many of the farms in the Harlem Valley, where this bulk pick-up of milk at the farm was first started, are producing 15 or more cans of milk per day.

In attempting to give a brief picture of our Connecticut supply, I would be remiss if I did not make the statement that Connecticut producers have done a marvelous job in evening out their cycle of production. In fact, expressed in the usual manner of pointing out this seasonal variation in production, we could speak of it in a ratio of one and one-quarter to one. Stressing this point may not seem pertinent to you at the moment in a discussion of farm tanks, but I hope to make its connection clear to you a little later on.

Operation Began in 1948

Milk first started moving into the Connecticut market by tank direct from the farms on April 1 of 1948. For two or three years prior to that time, a great deal of thought had centered around these possible arrangements and was utilized in designing the first tanks and working out the necessary arrangements. This first tank was installed on the Hedge Farm at Pine Plains, New York. In thinking out our first tanks, we felt that a surface cooler should be used, but we also wanted to have a means by which the milk could be kept at a constant cold temperature during the time of storage. Consequently, the first tanks that we put into use were in the form of a regular insulated vat-type tank with a small surface cooler suspended near the top. The milk was poured through a strainer on the top of the tank, which in turn fitted into a leader pipe over the surface cooler. The milk flowed down over the cooler falling into the bottom of the tank, and as the tank was filled with milk, the unit became partially submerged in milk. These tanks were also supplied with electrically-driven agitators which were both thermostatic and manually controlled. When the milk contained in the tank was not down to the previously-determined temperature, the agitator would stir the milk so that it all came in contact with the cooling surface. However, there was always a portion of the cooling surface which did not come into contact with the milk. Con-

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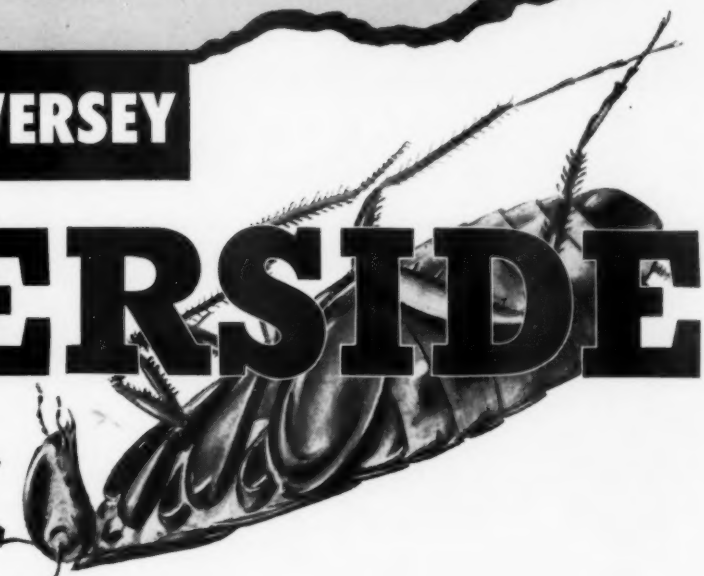

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It's an Achievement of Modern Science . . . An Advanced Idea in Formulation!

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NOW... GREATER KILL POWER PER DOLLAR SPENT!

NO OTHER INSECTICIDE OFFERS THE ADVANTAGES OF THIS EXCLUSIVE NEW CHEMICAL FORMULA . . . ONLY DIVERSIDE HAS IT!

Profit with these Unique Advantages

- New Diverside Gives You Exceptional Kill Power!
- New Diverside Gives You Fast Positive Kill!
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- A Unique Combination of Pyrethrum Plus Newly Developed Insecticidal Chemicals!
- Odorless!
- Economical . . . Actually Saves You Money!
- Laboratory and Field Tests Prove Its Superiority!

SEE THE PHENOMENAL DIFFERENCE IN KILL POWER ASSURED WITH DIVERSIDE!

Ask your D-Man for free Demonstration! See the difference right before your eyes . . . See new Diverside in action! Call your Diversey D-Man today!

THE DIVERSEY CORPORATION

Industrial Insecticides Dept.

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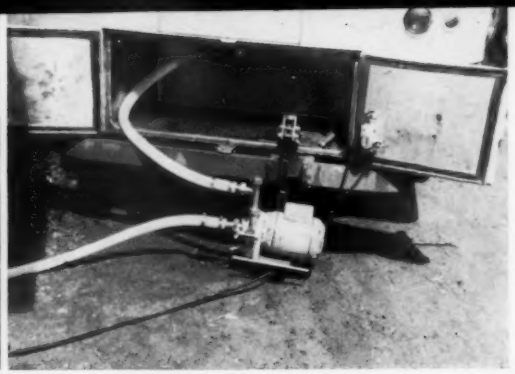

One of the early farm tank installations that followed the Bryant and Chapman experience was at Edisto Farms in South Carolina. Evolution of pipe lines and pumping can be seen by comparing the two pictures. Photograph at right, an arrangement used in Iowa, shows use of plastic hose, movable pump, and pumping compartment.

sequently, we were not taking full advantage of our refrigeration. Also, we found that the type of agitators that we first used, which were inserted through the top of the tank at a 45° angle, had a small blade and turned at a relatively fast rate. These were not proper, for it gave us much whipping and also much splashing when the quantity of milk was not sufficient to fully cover the blades. Also, when there was not a sufficient quantity of milk to cover the blades, we were not able to get proper movement of the milk.

Slow Speed Agitator

One of the first changes, therefore, was in the type of agitation, and based on our experience we feel that the vertical-mounted agitator with a large blade with very slow speed of agitation, which means between 18 and 25 revolutions per minute, was the answer to our problems regarding agitation. We also felt that going into the cold wall, or, literally "cold bottom" tanks as a means of heat transfer was more practical because we could utilize all the available refrigeration no matter how small an amount of milk was contained in the tank.

We still feel, however, that there are some advantages to our original type of tank, and I think it would be fair to say that this thinking is not chargeable alone to stubbornness. If the surface cooler is supplied with a large enough type of compressor to properly compensate for the lack of utilization of refrigeration, it still gives us the instantaneous cooling shock which contributes its definite share to a quality product.

We found, however, in this tank development, that it was necessary, from a practical standpoint, to compromise our original ambitions, which included an instantaneous cooling of the milk from the cow's body heat to 36°. Such a condition would, of course, demand rather more substantial peaks of refrigeration than were found to be practical, and we believe that from a quality standpoint the type of cooling job that we are presently doing, which brings the milk down to between 36° and 38° within approximately 40 to 45 minutes after the milking, is satisfactory.

System Is Growing

The development of the first complete trucking route was done very slowly so that we did not have a complete tankload of milk coming into the plant until approximately a year had elapsed. Since that time and since the development of the new type of tank, the system has been growing rapidly. The prime factor in this growth has been the extreme satisfaction expressed by the producers who were shipping milk by this method. At the present time the Bryant & Chapman Division of our own Company is receiving one 3500-gallon tankload, one 3100-gallon tankload, and one 1500-gallon load. The Connecticut Milk Producers Association has fostered and put into operation two tankloads of milk going to the southern part of the State and are presently working on more. Likewise, our own people in Hartford are developing other sections with this bulk handling project, one route of which lies entirely within the State of Connecticut.

In discussions of this bulk handling project, we have had many minor and, in fact, ludicrous objections raised by various individuals and groups. There is, however, one very serious question that has been raised time and time again, and that one is—what is going to happen to the small producers?—will they be driven out of business by the development of these tank methods? This problem certainly must be recognized and positively answered. Certainly, no individual or company has any desire to put small producers out of business and certainly, from the standpoint of a producers' cooperative, this question had to be answered in a positive way before they could give wholehearted backing to the tank development. We did not start this project with an answer to this problem in mind, for our thinking was that this method probably could not be applied to producers of under 15 cans per day. Our thinking on this score has changed greatly, largely because of improved equipment and methods to the point where we would now consider it practical and economically sound for a producer of 6 to 8 cans to install a tank. We also know that it is practical to consider every-other-day pick-up at the farm. If such a practice is put into effect we could then consider, from the trucker's standpoint, picking up a 3- or 4-can producer on an every-other-day basis and make it practical to stop for that amount. On producers of a lower volume than this, of which we have many in Connecticut, we are about to try a method which may or may not be practical.

For the Small Producer

We expect to supply the 1- and 2-can producers, located in an area where tank pick-up is to become the rule rather than the exception, with stainless steel 40-quart cans which they will use in their regular can coolers as they have been doing at present. On the days of pick-up at their neighbor's farm who owns a tank, they will transport their milk to that neighbor's milkhouse where it will be measured and sampled by the truck driver in the tank after picking up the tank's original contents. This plan could also be put into effect in the case of a producer situated so as to be inaccessible

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EXTRA PROTECTION

at no extra cost!

Meet the container that more and more dairies are using to protect vitamin-enriched milk! This new Amber Quart Bottle safeguards milk's quality and flavor because it filters out harmful light rays.

Equally important, the Amber Quart Bottle is economical to use on your retail routes. Like all glass bottles with multiple returns, it actually costs you only a fraction of a cent per trip.

Give your milk the added protection of low-cost Amber Bottles. Be certain you use the best — order Thatcher Amber Quart Milk Bottles now.

THATCHER Glass

MANUFACTURING COMPANY, INC., Elmira, N. Y.

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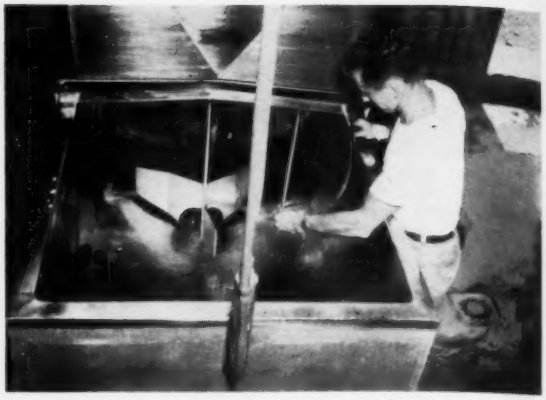
This is a 400 gallon cold-walled tank with temperature control in the center board. Temperature control is adjustable so that control can be in any desired depth in order to hold milk at a constant temperature.



Agitators vary in size. Some dairymen prefer a large agitator at slow speeds, others like a somewhat smaller unit moving at higher speeds. Rinsing operation is one of the most important steps in bulk handling.

to the tank truck. This contemplated action has the tentative approval of our State authorities in Connecticut, and may or may not be an answer for small producers. Only a trial will tell us.

At the present time we are using farm tanks varying in capacity from 150 gallons up to 600 gallons. We expect, however, that the 10-can, or 100-gallon, tank will be the one used most often when we actually get into picking up the milk from our smaller Connecticut producers. We have been advising producers generally that the size of the tank that they purchase should be large enough to contain a minimum of three milkings at the peak season. Actually, most of the tank manufacturers have standardized insofar as their tank sizes are concerned so that the tanks actually contain about 10% more than their rated capacity. In the purchase of tanks, factors that must be taken into consideration are the possibilities of future expansion, the possibilities of emergencies, the possibilities of every-other-day pick-up, and, of course, the actual production at the time. The reason that we are talking on the basis of three milkings, particularly for the larger farms, is that we feel that it would be uneconomical to buy a tank large enough to permit every-other-day pick-up of milk from farms producing more than 4 to 5 cans per day. Under that rate of production we consider that they *must* be picked up on the basis of every-other-day the year 'round to prove economical. In the case of those farms producing 6 cans or more, we feel that if they have a tank which will hold at least three milkings at the peak, that that capacity in itself will allow for every-other-day collection of milk during six or seven months of the year at least. Obviously it is to the farmer's advantage if he can use the equipment as near to its rated capacity the full year-'round as possible, because when it gets down to figuring a matter of investment it must be done on the actual milk handled and not theoretically on the capacity of the tank. Therefore, to have a tank large enough to hold four milkings even at the peak season would mean that for the balance of the year the tank would only be filled to a relatively small percentage of its rated capacity, and this fact makes apparent the value of even annual production.

The matter of investment is one that comes immediately to everyone's mind when considering this type of bulk handling. At the present time the average investment for a tank of 200-gallon capacity is about $2,300 completely equipped and installed. On a 10-can or 100-gallon tank we believe that this cost will be in the neighborhood of $1,500 or $1,600. In either case, this is a substantial investment and obviously the larger the production the less amount per can that has to be invested. However, if we compare this investment with other pieces of equipment that are found on the average farm today, we definitely feel that the return on the investment in the tank is equal to or more than on the investment of a comparable amount in other labor-saving devices. In addition, this equipment improves the quality of the farm's principal cash crop. The original investment, of course, can be offset by the type of cooling equipment that is presently being used. In the case of the Connecticut market all milk must be cooled prior to being transported to the market and present regulations provide that each farm must be equipped with cooling and storage equipment large enough to take care of maximum production.

Calculating Costs

In calculating the relative cost of the two pieces of cooling equipment, farm tanks and can coolers, let us assume a life of five years for both types. From our experience with plant equipment in the past we feel that the life of the cold-wall tanks is more nearly double that of the five-year period used, but in an attempt to be conservative we have used the shorter period. For a producer who is producing between 7 and 10 cans we feel that he would need a tank of 150-gallon capacity, but that he would only need a 10-can cold water bath cooler. On this basis and assuming use on the basis of 65% capacity, the year-'round amortization cost over the five-year period with the tank equipment would be 14c per cwt., while on the cold water bath cooler it would be 6c per cwt., or a difference of 8c more per cwt. for the tank cooler. Offsetting this additional cost are some very definite savings that we know which can be put into dollars and cents. There are also others, some of which are intangible, all of which are impossible to interpret into a matter of cents per cwt. Among the defi-

Watch how the Friden fully-automatic Calculator– *The Thinking Machine*– speeds and simplifies

MILK CHECK REGISTER CALCULATIONS

	POUNDS OF MILK	TEST	POUNDS OF BUTTERFAT	PRICE	GROSS AMOUNT	DEDUCTIONS BUTTER POUNDS	DEDUCTIONS BUTTER AMOUNT	DEDUCTIONS OTHER MERCHANDISE	NOTE ACCOUNT	AMOUNT OF CHECK	CHECK NO.
	218	3.9	8.50	.96	8.16	2	1.56	.95		5.65	3126
	346	4.2	14.53	.96	13.95					13.95	1578
										.94	1587
	140	3.6	5.04	.96	4.84	5	3.90				
TOTALS	19008		655.64		629.41	26	20.28	7.59	18.11	583.43	

In one continuous operation, the Friden multiplies milk pounds × butterfat test, obtaining butterfat pounds . . . multiplies butterfat pounds × price, obtaining gross amount . . . subtracts deductions from gross amount, obtains net amount . . . accumulates totals of both butterfat pounds and individual check amounts.

MILK PLANT MEN around the country find the Friden Calculator "thinks out" answers to figure problems almost instantly—not only milk check register calculations, but also farmers' payrolls, drivers' load sheets, cost proration, discounts, payroll calculations, etc.

This is one of the most profitable pieces of equipment a milk plant can have. And the cost of a Friden Calculator is quickly paid by time-savings!

No special operator training is needed to work your figure problems on a Friden. Phone or write the Friden Man near you for a demonstration. Friden sales, instruction and service available throughout the U.S. and the world. FRIDEN CALCULATING MACHINE CO., INC., San Leandro, California.

Automatically it takes work out of figure-work

Friden

THE THINKING MACHINE OF AMERICAN BUSINESS

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HERE IT IS!

A Profit-Packed Fall Milk Promotion from VITEX*

This year it's easier than ever to set up your fall milk promotion. "School Days are Milk Days" gives you a powerful, coordinated campaign that hits Mrs. Housewife from all sides—in newspapers, radio and on her doorstep when she brings in the milk.

Pioneer producers of Vitamin Concentrates for the Dairy Industry

VITEX LABORATORIES

A Division of the Nopco Chemical Company

HARRISON 12, N. J.

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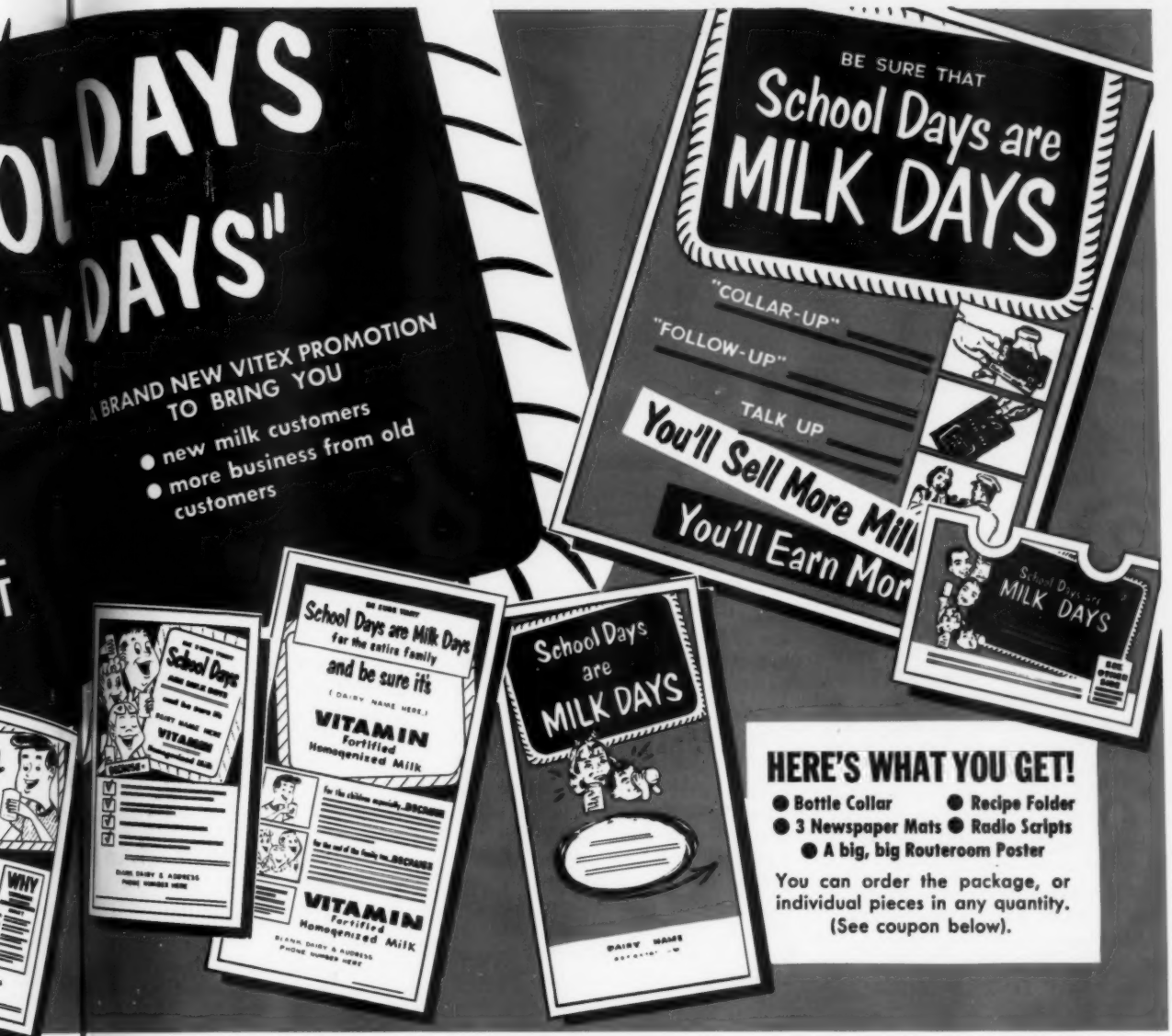
DAYS
DAYS"
A BRAND NEW VITEX PROMOTION TO BRING YOU
● new milk customers
● more business from old customers
BE SURE THAT
School Days are MILK DAYS
"COLLAR-UP"
"FOLLOW-UP"
TALK UP
You'll Sell More Mil
You'll Earn Mor
School Days are Milk Days for the entire family and be sure it's
VITAMIN Fortified Homogenized Milk
School Days are MILK DAYS
DAIRY NAME
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HERE'S WHAT YOU GET!
● Bottle Collar ● Recipe Folder
● 3 Newspaper Mats ● Radio Scripts
● A big, big Routeroom Poster
You can order the package, or individual pieces in any quantity. (See coupon below).

SAVE!!! Order this special deal before August 1st. 5000 collars, 5000 folders, 3 different newspaper mats, radio copy and routeroom posters (usually $79.75). Order now — Pay only $69.75

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ONLY VITEX GIVES YOU ALL THREE —

THE PRODUCTS

The only manufacturer with this complete line: Natural Vitamin D UVO-Cryst (Irrad. Ergosterol) Vitex A-D Multi-Mix† (Multi-Vita-min-Mineral Concentrate)

THE PROMOTIONS

Your Vitex representative offers help in planning profit-making campaigns, training routemen in dramatic sales meetings, providing hard-hitting, low-cost sales literature.

THE PROOF OF RESULTS

Ask your Vitex representative to tell you about the many successful sales campaigns planned by Vitex for dairies everywhere. He'll show you letters giving actual results achieved.

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First & Essex Streets — Harrison 12, N. J.

CHECK WHAT YOU WANT HERE

☐ Please rush — special introductory package(s) of "School Days are Milk Days" promotion @ $69.75. Enclosed is check for $_____.

☐ Please rush "School Days" promotion sample kit, no charge

☐ Please send complete information and prices on "School Days" collars and folders

☐ Please have a Vitex representative call to help us set up our "School Days" promotion

NAME OF DAIRY_____

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CITY_____ ZONE_____ STATE_____

(SIGNED)_____

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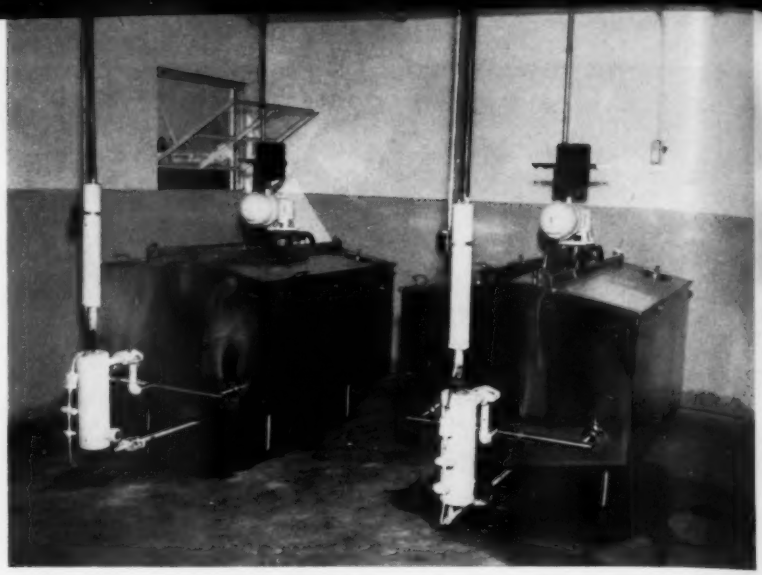
nite ones are the savings in butterfat, in volume, and in can expense. In our talks, we and the C.M.P.A. have been using approximately the same figures and these were purposely conservative. They amounted to an estimated saving of 4c per cwt. for volume, 4c per cwt. for butterfat, and 2c per can expense, making a total saving to the producer of 10c per cwt. Additional savings that could be passed on to the producer are decreased hauling rates which we fully expect can be 5c per cwt., possibly a few cents more, depending upon the route, if and when every-other-day milk collection becomes the standardized practice.

Producer Savings

On the basis of practical experience and the accumulation of additional data, I feel that we may have to revise our estimated savings. At a recent meeting where this bulk handling method was discussed completely and in detail, a very substantial producer who at present has a tank installed, but who is drawing off and shipping his milk to the dealer in cans, gave us some very interesting figures. This producer and his dealer cooperated in arriving at these figures. They had an ideal situation for comparison as they could take volume figures and butterfat samples from the tank before drawing off into cans, and the actual figures with which he was credited at the plant for both volume and butterfat test. The result of his record showed a savings of slightly over 11-oz. of volume per cwt. which, based in terms of the Connecticut pricing of milk, would mean 4 to 5c per cwt. On his butterfat sampling he found a difference of between one-half and one point. We have calculated this to mean approximately 6½c per cwt. When the can expense is added to these two figures, we find his calculated savings to be between 13c and 14c per cwt. with no saving yet figured on hauling charges. On the basis of this one experiment I am not willing at this time to change our basis of calculations; however, in view of this and in view of what many of our own producers have told us, we do feel very sincerely that our estimate of savings is extremely conservative. Consequently we feel that the investment can more than justify itself even on a basis of an estimated equipment life of one-half of what we believe it actually to be. In addition to this balance sheet statement, there are the intangible values that I mentioned before, values for which can only be attached by the individual producer depending upon his situation or his outlook. The principal ones included in this category would be the labor savings (which can be interpreted into dollars and cents on the larger farms), the satisfaction of putting out a higher-quality product, the satisfaction of having milk purchaser at the farm with a daily receipt for the amount collected, the satisfaction of having a duplicate sample for butterfat testing and of seeing this sample taken. We find that there is a very definite psychological advantage in having a piece of stainless steel equipment on the farms. It has given producers a new incentive for cleanliness and general pride in their operations. This psychological aspect has definitely carried through in the matter of cleaning this equipment, which must be done by the producer. The cleaning is done according to a very carefully laid out schedule supplied by the dealers and the cooperative association.



The degree to which the traditional milk room can be converted into a clean efficient milk handling establishment is superbly illustrated by these two 300 gallon tanks at the Agricultural and Technical College, Greensboro, N. C.

Sanitation Very Important

Obviously, the sanitation in regard to these tanks is very important, and must be watched carefully. Regulations are being drawn up and others will be drawn up by the various agencies as more experience is gained in this method of handling milk. Definitions and standards are being and will be drawn up regarding the tanks themselves and methods used in installation of the tanks, in their calibration, and in the taking of samples for the purposes of determining butterfat. Our Connecticut authorities have been active in this regard and have approached the problem from a very objective, reasonable, and practical point of view. Tentative regulations have been issued by the Department of Farms and Markets which include, among other things, the following provisions:

1) *Equipment* – All milk handling equipment shall be of structural design to meet recognized national standards.

2) *Cooling*—Cooling equipment and facilities shall be maintained for all milk on hand at any time. When freshly drawn milk is cooled in bulk milk cooling tanks, it shall be cooled to 45° within one hour after milking. Before uncooled milk is added to cold milk, the cooled milk shall be completely agitated. The application of refrigeration shall not be to such an extent as to freeze the milk.

3) *Washing and Sterilizing* – All milk handling equipment shall be rinsed and washed immediately after use and sterilized before re-use.

4) *Milk Room*—The milk room must have concrete floors, properly drained and trapped, washable walls and ceilings, ample light and ventilation. The equipment shall be so arranged as to

(Please Turn to Page 52)

AMAZING NEW VAPORIZER KILLS INSECTS INSTANTLY!

At Last! Complete Protection From Insects!

MORTRON VAPORIZER

$6.95 per unit complete with cord, wall bracket and liberal supply of Mortane crystals

Additional units of Mortane Crystals — 50 cents each.

Actual size 4½" x 2½"

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Dealers! Jobbers! Distributors!
If you are interested in representing Mortron in your area, please contact us. There are still a few open markets.

MANUFACTURERS, RETAILERS, FARMERS ACCLAIM AMAZING UNIT

It's the same thrilling story everywhere — amazing reports of the effectiveness of the Mortron Vaporizer. Manufacturers, retailers, farmers, proprietors — in every line of business acclaim wonderful freedom and protection from flying pests.

"Kept our barn free of flies and mosquitos"

"Made shopping a pleasure"

"Did away with bothersome fly nets over our baked goods"

Don't risk losing good will among your customers or endanger the profitable operation of your business and the productive capacity of your employees. Here is a partial list of establishments for which the Mortron Vaporizer has been designed: breweries, distilleries, ice cream plants, poultry houses, confectioners, grain and feed mills, kennels, printing plants, bakeries, canneries, grocery and food stores, packing houses, restaurants, hotels, theatres, public restrooms, bottling plants, dairies, paper mills, soda fountains, taverns.

MORTANE FOUR TIMES MORE POWERFUL THAN DDT

The Mortron Vaporizer vaporizes a crystallized chemical called Mortane. It was discovered in Europe in 1939 and is considered four times more powerful than DDT. Never before has there been anything so powerful, yet so safe and so protective. While it means sure, instant death to insects, it is perfectly safe for humans, foods, livestock, plants and pets.

CHECK THESE FEATURES!

- No servicing required
- Operates electrically for pennies a month
- Weighs only 7 ounces
- Safe! — Underwriter's Laboratories Label
- Guaranteed for 10 years
- Single unit effectively covers a 40 x 50 x 10 room
- Safe, odorless, inconspicuous
- Lowest priced vaporizer of its kind
- Comes in ivory or black colored plastic
- Money back guarantee

SENSATIONAL DISCOVERY PROTECTS BARNS, HATCHERIES FROM LICE, FLIES and DISEASE-BEARING PESTS

SILENT! ODORLESS! COLORLESS!

Now at last you can rid your office, store, factory, barn, restroom, warehouse, in fact any room, of flies, bugs, mosquitos, gnats, and roaches. Now at last you can protect foods from disease-bearing pests — protect employees from annoying interruptions — protect customers from these flying nuisances.

Just plug the unit in any electrical outlet. Within seconds this miracle discovery starts to work, vaporizing a crystallized chemical called Mortane that is four times more powerful than DDT . . . that means sure, instant death to insects . . . yet is perfectly safe for humans, food, plants, livestock and pets.

Never before has there been anything so safe, so protective, . . . so powerful. Best of all, no servicing is required, other than to refill the vaporizer with Mortane when empty.

Don't suffer another moment with old fashioned hit or miss methods, fly swatters, costly and messy spray guns. Be guided by the thrilling experiences of countless manufacturers, retailers, farmers, and proprietors all over the country who acclaim the Mortron for the amazingly quick, efficient, economical way it kills flying insects. You have everything to gain for the Mortron Vaporizer is sold with a money back guarantee.

Works Automatically — Out of Sight

Unlike most vaporizers, the Mortron is a compact unit, so small it fits in the palm of your hand. It operates electrically on only 6 watts of current and is completely effective up to 10,000 cu. ft. — approximately a 40 x 50 x 10 room. It works silently, odorlessly, inconspicuously and requires no servicing other than to refill the vaporizer cup with Mortane Crystals when empty.

Weighs Less Than 7 Ounces

You'll be thrilled with the speed and effectiveness of this miracle unit. It starts to work the instant you plug it in. Within seconds the vaporization of the crystals affects flying insects; gives you immediate relief from annoying, disease-bearing flies, bugs and mosquitos.

Best of all, the Mortron is so inexpensive to use. Electric costs run pennies a month.

LABORATORY TESTS PROVE "INSTANT DEATH TO INSECTS"

Laboratory tests prove how effective the Mortron Vaporizer really is. Here are the results as reported by a leading testing company:—

"After 7 minutes, 80 to 90% of the insects in the room were dead.

After a 9 minute run, they were all dead."

Incredible but true. Never before has it been possible for you to enjoy such complete, continuous protection from pesty flies and other annoying insects. And at the same time, give your customers and employees wonderful protection.

But only your experience counts. Try the Mortron Vaporizer at our expense. If it doesn't do everything we claim, return it in 7 days and get your money back.

MAIL COUPON TODAY! MONEY-BACK GUARANTEE!

EXTERMINATOR CORP. OF AMERICA **Dept. A**
15 S. 21st St., Phila. 3, Pa.

Gentlemen: Enclosed please find $6.95 for a Mortron Vaporizer. It is my understanding that if I am not satisfied, I can return the Mortron Vaporizer in 7 days and receive my money back.

NAME .....

ADDRESS .....

COMPANY .....

CITY ..... Zone ..... State .....

XUM

The American creative genius, the American spirit of adventure is not dead. From the brain of an obscure college professor comes that magnificent new taste sensation——

FROZEN ISOSCELES TRIANGLES—

. . . Another Great Profit Builder

Exclusive feature AMR

Geometry has married the dairy business. Not since Pythagoras invented the theorem has there been a comparable exploitation of geometric values. To an industry long accustomed to dealing with angles, the advent of the thrilling new taste experience, Frozen Isosceles Triangle, has given plus profits and black ink.

Q.E.D. Ice Cream and Fur Storage Company of West Bransack, Ohio reports: "Our novelty business has increased one hundred per cent since we started selling Frozen Isosceles Triangles. We used to sell a popsicle a day on some days, now we sell a popsicle and a frozen triangle. The kid that buys them puts the bite on his old man for another dime. It simply points up the appeal what this new product has for young America."

Walla's Dairy of Walla Walla—formerly Walla's Dairy when it was named after the first Walla in Walla Walla, it is now named after the second Walla—sends in this bit of intelligence. "We have replaced our entire line of Hunky-Chunky Polar Ice Caps with this new frozen triangle proposition. We call it The Old Equalizer. It fits in superbly with our promotional program. We have been on the horns of a dilemma, and that's no bull, for a number of years. The problem has been which Walla of WallaWalla to use. With this new product our troubles have been eliminated. With two equal sides we can use both Wallas. Our sales have skyrocketed. In fact our Sales Manager was last reported half-way to the moon when the rocket took off prematurely. Our organization is completely sold on the product. Someday we expect to have sufficient production so that we can sell the general public."

Isosceles triangles are not new. Frozen Isosceles Triangles, however, are as new and exotic as a first kiss. Credit for originating this smashing new gustatory triumph goes to Dr. Viscose P. Flupp, Professor of Applied Epicactomy at the University of Sulphanapthal. The trigger which set off the mental chain reaction that produced the Frozen Isosceles Triangle was Dr. Flupp's exhaustive study of the common pie. According to data compiled in this study, the wedge-shaped cut customarily used in serving pie represents the highest development of food convenience devised by man. "It even surpasses the lollipop," says Dr. Flupp.

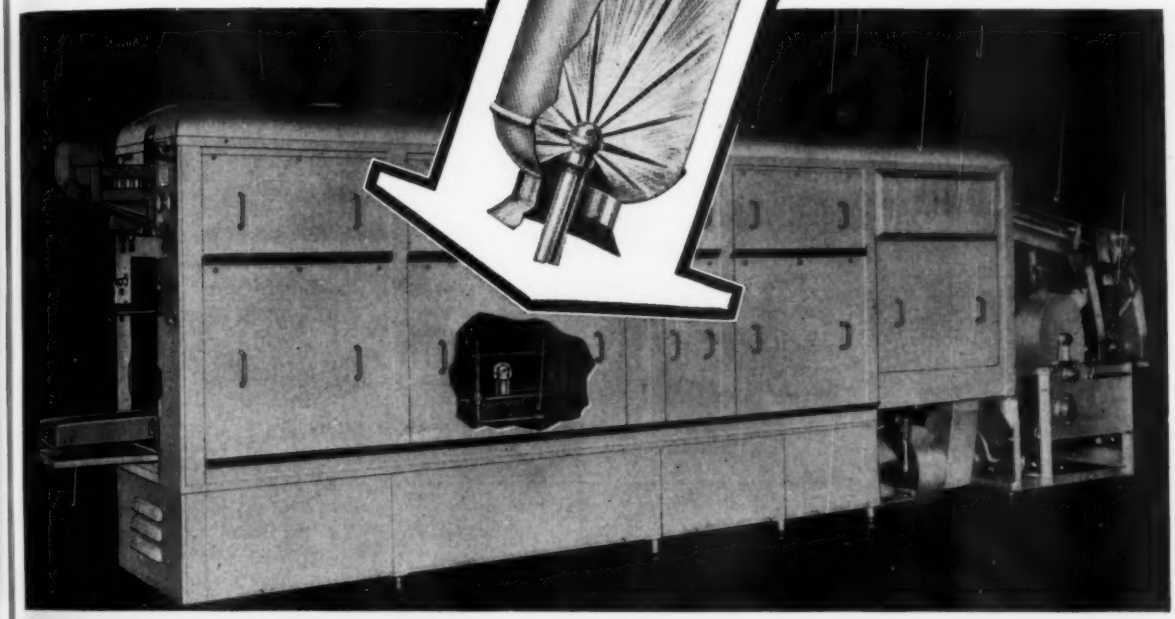
The key to eating convenience expressed by a piece of pie, according to Dr. Flupp and workers, is its triangular characteristic. "Suppose," Dr. Flupp says, "that pie were cut in circles or squares instead of in triangles. In the first place you would immediately have the problem of where to begin eating. With the triangular piece, no such problem exists. Obviously the place to make the first incision for detachment (Dr. Flupp's new term for cutting off a piece with your fork) is at the narrow extremity. In all of our research we never found one single individual

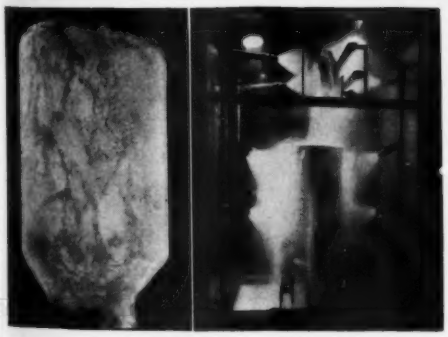
Why RICE & ADAMS RISING JETS

PROVIDE THOROUGH AND COMPLETE CLEANING ACTION

Showing the direct pressure wash pattern of the Rising Jet inside the milk can which cleans *all* parts... lip, neck, breast, sides and bottom.

Below shows the Rice & Adams Milk Can Washer with cut-out to illustrate location of Rising Jets in Wash Tank.





Showing the wash pattern of Rice & Adams Rising Jet at left. At right, Rice & Adams Cone-Nozzle Jets washing entire outside of can, and outside of covers, with DIRECT JET PRESSURE ACTION.

● Rising Jets by automatically elevating 6" into each milk can thoroughly and completely wash *entire* insides with direct, full pump pressure. *Only Rice and Adams Milk Can Washers are available with these exclusive Rising Jets.* This direct pressure action eliminates relying on backwash.

This is only one of many features that has made Rice & Adams Milk Can Washers standard equipment in more and more milk plants for over 40 years.

The Rising Jet feature is too big a story to tell here, so write TODAY for complete information.

RICE & ADAMS EQUIPMENT DIVISION
PRESSED STEEL CAR COMPANY
BUFFALO 17, N. Y.

Dairy PSC Equipment

Also Manufacturers of Rotary Can Washers, Power Conveyors, Stainless Steel Weigh Tanks, Receiving Vats, Case Washers and Bristle Brush Can Scrubbers.

who ever started anywhere else. Of course, we did find a few individuals who ate only the filling and others who left the crust, but even in these cases the first approach was made at the point of the wedge."

A second consideration that figured prominently in bringing Dr. Flupp to his conclusion regarding pie was the matter of efficiency, or, as he terms it, the "transverse wedge factor." The marvelous fact that all of the wedges fit perfectly, one against the other, with a resulting total elimination of waste (except in the case of a particularly juicy piece of blueberry pie) makes the wedge of pie the most economical method of serving food known.

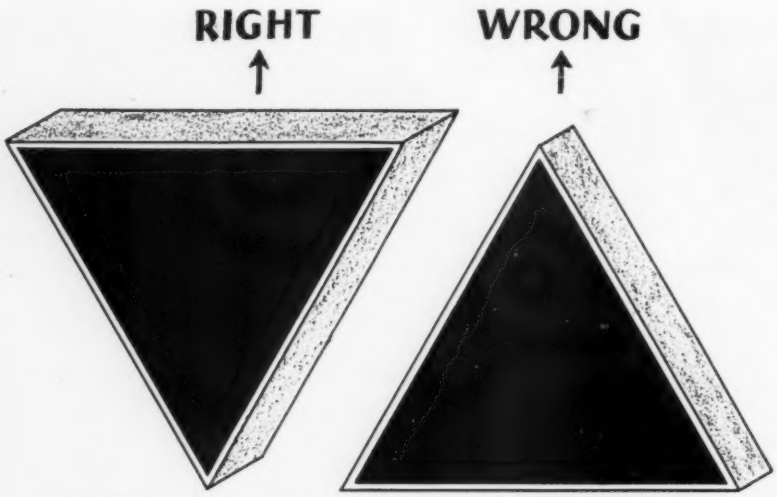


Diagram shows right and wrong methods of removing triangles from molds.

Both the circle and square methods of cutting pie invariably left odd bits that could be fitted into no known pattern. The only use to which these odd pieces could be put was to sneak them in on the hors d'oeuvre platter at cocktail parties.

Best technique was to wait until the third round before introducing them. By that time nobody knew the difference anyway. This seemed like a promising field until OPS issued a 15-page regulation describing in detail the legal method of cutting pie. This effectively curtailed any further experimentation with either round or rectangular pieces. "However, it didn't really matter," Dr. Flupp declared. "Whoever heard of a round piece of pie?"

Frozen Isosceles Triangles were created quite by accident. Dr. Flupp was late for supper one evening. His wife put the supper in the oven to keep it warm and a piece of pie in the refrigerator to keep it cold. The refrigerator was full of milk, the Flupps being on every-other-month delivery, so Mrs. Flupp put the pie in the freezer compartment. Their son, a cute little monster with an inquiring mind, had wired the cat with some thermocouples connected with the refrigerator. His purpose was to determine the point at which the cat would be frozen into rigidity. Subsequently he turned the refrigerator up to "coldest" and went off to watch "Space Cadet." When Dr. Flupp reported for supper, both the cat and the pie were effectively congealed, the son had the piano dismantled "to get material for a space ship," and Dr. Flupp stood on the threshold of his great creation.

"At first," Dr. Flupp says, "I was inclined to be a bit stuffy. However, as I considered the frozen pie, easy to handle, easy to eat, tasty, nutritious, and refreshing, I was reminded of the old classic doggerel,

'A pity that grapefruit is not cut
like pie
'So you'd get more in your mouth
and less in your eye.'

"I suppose it was all of that milk in the refrigerator that bridged the gap for me. At any rate the thought occurred, why not a frozen triangle? This idea was good. Almost immediately, however, the master stroke came to mind. Not just frozen triangles, but frozen isosceles triangles." Thus, in humble circumstances, the most spectacular food idea since corn developed the cob was born.

Production techniques for frozen isosceles triangles are not elaborate. First you must have a triangle; the rest follows fairly easily after that. The usual mold is employed. Once you have your triangle the mold is patterned after it. An important consideration is the opening in the mold from which the frozen triangle is withdrawn. This opening, or *fenetre de derriere* as the French inventor Grand Fromage terms it, should always be at the broad or base of the triangle. Otherwise difficulty may be experienced in removing the frozen triangle from the triangular mold in which the frozen triangle is frozen.

Any good mix can be used for the body of the frozen isosceles triangle, with the exception of those used for cake and Tom Collins. Some work was done in an attempt to adapt the Tom Collins mix to the frozen isosceles triangle. Results of research on the subject were something of a paradox. The problem was to get the Tom Collins mix stiff enough so that it would hold the required triangular shape. Unfortunately the Tom Collins mix would never get stiff while, strangely enough, the research workers did so consistently.

Promotion of the Frozen Isosceles Triangle, which is produced under a franchise arrangement with Dr. Flupp, is being done on a nationwide scale. A breath-taking program of hard-hitting sales messages is sweeping the country from coast to coast. Backed by 14 sparkling, full-color pages in GLAZE, the brilliant new magazine that nobody has published yet, 18 pages in FOURTEEN, the spanking, ultra-modern publication that just missed being *Seventeen* by three years, and 21 pages in CLIP, the international barber shop magazine, the campaign is putting frozen isosceles triangles where they never were put before.

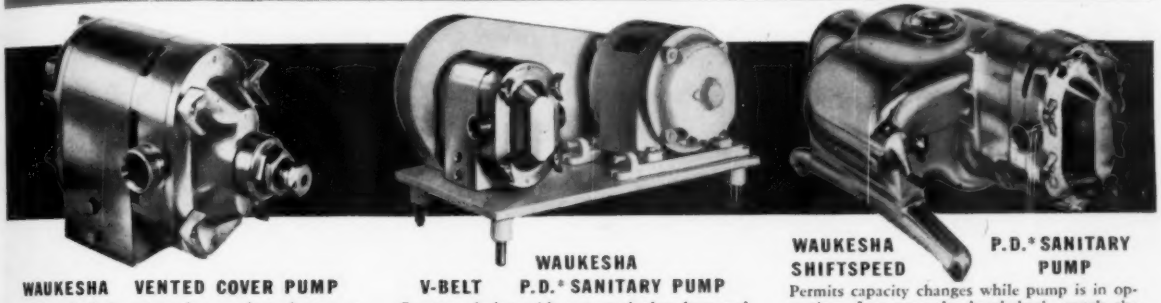
In addition to the magazine campaign there were 9 national radio shows, 6 television programs and two party lines in Nebraska boosting the product. It is estimated that there will be 247 sales messages for every man, woman and child in the United States. Each sales message is accompanied by a cold stare and a musical note on a triangle. Keepum, Headin, Cloud, Inc., is the advertising agency handling the mammoth campaign.

These *Waukesha* P.D.* Sanitary Pumps

Will Earn Money for YOU . . . In Savings and Product Protection

Whether your product is light liquid, creamy, semi-solid or even chunky, you can handle it more efficiently and more economically with a WAUKESHA P.D. Pump. For with Waukesha's Positive Displacement principle of action, your product comes *out* of the pump exactly as it goes *into* the pump. There's no possibility of churning, aeration, agitation, crushing. That's why it's standard in leading food, beverage, dairy, chemical and textile plants the country over.

The Waukesha P.D.* Pump features: One-Piece O-Ring Sanitary Seal — Compact streamlined construction of Corrosion-Resistant "Waukesha Metal" or Stainless Steel on all product-contact parts — Heavy Duty Ball Bearings — Faster cleaning and sanitation — and other advantages.



WAUKESHA VENTED COVER PUMP

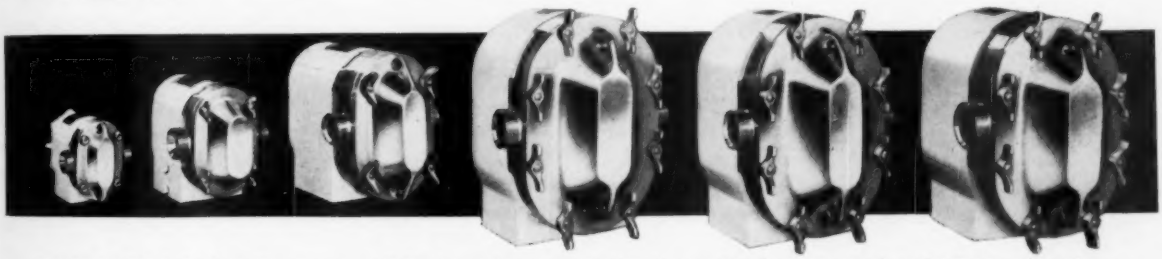
Offers built-in protection against dangerous line back pressures. Stops product flow if pressure exceeds safe pre-set limits. Avoids by-passes, extra pipes, fittings, tubing. Available on all Waukesha Models.

WAUKESHA V-BELT P.D.* SANITARY PUMP

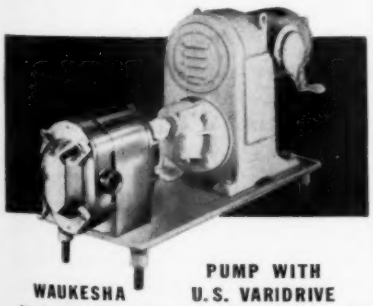
Compact design with new steel plate base and adjustable ball feet for floor clearance and utmost sanitation. Capacities from 1,000 to 60,000 pounds per hour.

WAUKESHA SHIFTSPEED P.D.* SANITARY PUMP

Permits capacity changes while pump is in operation. Just turn the handwheel, watch the dial on top of housing. High speed stop and external sealing device prevents over-shooting flow capacity. Streamlined, sanitary housing.



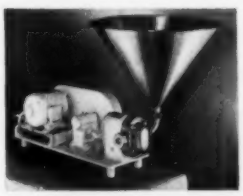
Waukesha P.D.* Sanitary Pumps are available in a wide range of sizes, in capacities from 20 pounds to 60,000 pounds per hour — against head pressures up to and including 100 pounds — for a wide variety of applications.



WAUKESHA PUMP WITH U.S. VARIDRIVE

Variable Speed Model available in variety of Motor H.P. and speed adjustment. Steel Plate Base with Adjustable Ball Feet.

WAUKESHA ICE CREAM FLAVOR PUMPING UNIT



Will not crystallize flavoring nor disturb ice cream overrun. Available with 2½ gallon or 10 gallon Stainless Steel Hopper, ¼ H.P. Motor. For Batch type, or continuous freezers. Capacity — 6 to 45 gallons per hour.

*P.D. — Positive Displacement — Smooth Flow — Slow Speed

Write or wire — for advice and details on the Waukesha P.D. Sanitary Pump to fit your needs exactly.

WAUKESHA FOUNDRY COMPANY

WAUKESHA, WISCONSIN

Waukesha 100% SANITARY PUMPS

Dependable Product of a Responsible Manufacturer

XUM

Chicago Is Getting Ready for the Big Dairy Show and Conventions

EXPOSITION time is two months away—The 18th Dairy Industries Exposition, that is. Fired by the slogan "All that's new in '52," the seven big show and convention days in Chicago, September 22-27 are a "must" for dairy processors everywhere.

The Dairy Industries Exposition is the one single event where, under one roof, the size and majesty of the dairy industry becomes a tangible reality. This year, in Chicago's tremendous Navy Pier, the show offers to milk handlers a chance to see just about everything under the sun that is new in the milk business. Name your interest, ladies and gentlemen, and you'll find it there. If it's equipment, ranging all the way from a filter disc to an evaporator three stories high, you'll find it there. If it's flavoring, whether from Luzon or Sao Paulo, you'll find it there. If it's packaging, glass, paper, parchment, or metal, you'll find it there. If it's transportation, long haul or short, refrigerated, plain, big, or little, you'll find it there. If it's sanitation, or advertising, or finance, or trade association, or whatever, you'll find it there. It is the largest single industrial show in the world and it will be a killer-diller.

The Navy Pier is a long slender finger that thrusts out over the blue water of Lake Michigan for nearly a quarter of a mile. It is a Paul Bunyan sort of structure where sight-seeing tours are sometimes made on tractor-drawn trains and where a man can grow a beard while walking from one end to the other.

On this fabulous structure, removed from the press of the city yet scarcely a stone's throw from the best hostelries in Chicago, nearly four hundred exhibitors will have their products and services on display. A record attendance is anticipated by the Dairy Industries Supply Association, sponsors of the show. Because it is being staged in Chicago, closer to the center of population than the Atlantic City shows, it is expected that greater numbers of people connected with the dairy industry will take advantage of the opportunity the show affords.

In addition to the Exposition, the International Association of Ice Cream Manufacturers will hold their annual convention at the Conrad Hilton Hotel from September 21 to 24. The Milk Industry Foundation will ring up the curtain on the 1952 version of its annual convention on September 24. The convention will run for three days and, as usual, cover the milk business from ACIDOPHILUS to ZINC. (Tried hard on that last one but it was the best we could come up with. Got any better items?)

Hotel rooms will be at a premium. Word from DISA, IAICM, and MIF is, if you haven't gotten your reservation yet, get at it—but quick. A large number of rooms have been reserved for your use, but there are a large number of people expected. If you are a member of either the Milk Industry Foundation or the International Association of Ice Cream Manufacturers, make your reservations through those organizations. Otherwise write to the Housing Department, Chicago Convention Bureau, 134 North LaSalle Street, Chicago 2, Ill. Name three or four hotels in your order of choice, state when you will arrive and how long you will stay, what rates you want to pay and other pertinent information. No need to state your age or draft status but give the Housing Department enough to go on so that they will know what you want.

Chicago is a big city. The show is a big show. The conventions are big conventions. The time will be a big time. And don't worry about its being on the Navy Pier. You don't have to have a physical to get in or discharge papers to get out. Just be in the milk business, neighbor. Just be in the milk business. See you there.

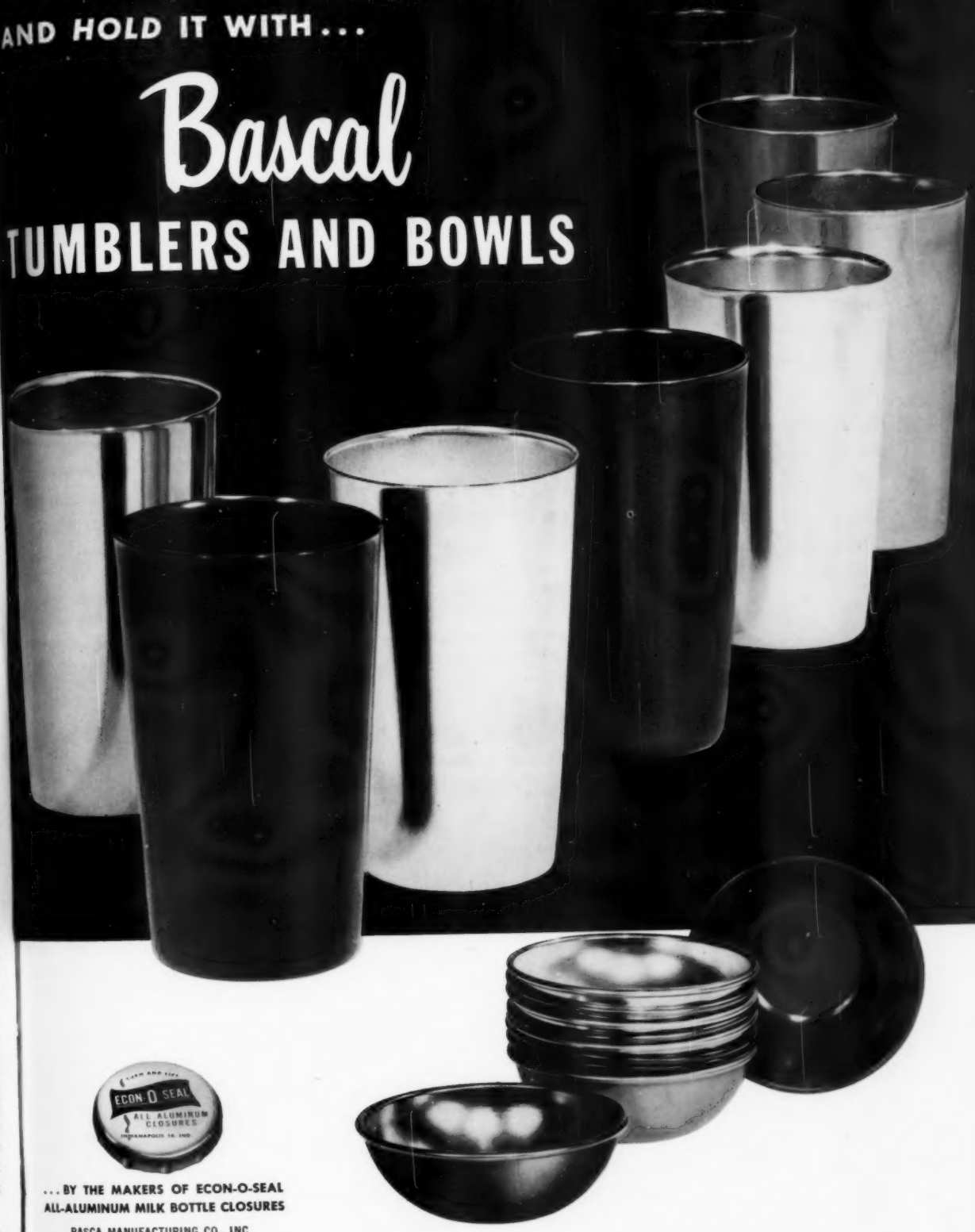
AND DON'T FORGET TO DO SOMETHING ABOUT YOUR HOTEL ROOM!

BUILD *PROFITABLE* COTTAGE CHEESE VOLUME

AND *HOLD* IT WITH...

Bascal

TUMBLERS AND BOWLS



...BY THE MAKERS OF ECON-O-SEAL
ALL-ALUMINUM MILK BOTTLE CLOSURES

BASCA MANUFACTURING CO., INC.
2222 North Olney Street • Indianapolis, Indiana

ALUMINUM PACKAGING FOR THE DAIRY INDUSTRY

PLAN YOUR *Bascal* PROMOTION NOW!

Q Why *Bascal* Tumblers?

A Because they're all-aluminum, beautifully anodized, the original aluminum cottage cheese container and still the quality and volume leader . . . because they won't chip, won't break—they're odorless, tasteless, non-rusting, and specially lined for positive protection against discolorization of food . . . because they're designed simply and modernly, with a no-drip lip, in popular 10-ounce capacity. Nine sparkling colors for a complete campaign.

Q What kind of risk am I taking?

A None. Basca promotions have been tested and proved highly profitable in hundreds of dairies, large and small.

Q What happens to my regular package?

A In market after market, dairies have maintained regular paper-packaged volume and have vastly increased total consumption of cottage cheese. Bascal brings you PLUS business.

Q How long does the program last?

A Just as long as you wish. Several dairies on the West Coast treat Bascal Tumblers as standard inventory items. And the programs are active all year around. One Mid-West dairy has averaged 15,000 per week for 121 weeks (2⅓ years) and the end is not in sight.

Q What about capping? How much new equipment?

A Basca designs, produces and supplies all capping equipment at nominal prices. Econ-O-Seal aluminum foil caps are simply, easily and quickly applied. Single source responsibility for tumblers, caps and equipment.

Q What about advertising and merchandising?

A Basca supplies everything you need for your promotion. In many markets, Basca promotions are backed by full-color, full-page Sunday supplement advertising.

Q What about delivery? How soon can I start?

A You get *guaranteed* delivery. When Basca takes your order, you get your tumblers, starting with an acknowledged shipping date. And you can put the whole program in operation very quickly.

Holds
10 ounces
of cottage cheese
(11½ oz. fluid cap.)

CHECK WITH *Basca* FIRST!

—Basca specializes in aluminum packaging for the dairy industry, and Bascal Tumblers are sold only as dairy packages—never as commercial premiums.

—Basca is the world's largest manufacturer of color-anodized aluminum tumblers.

—Basca is your one source for all package promotion material—the package, the equipment, the closures, the advertising and merchandising. Basca originates, fabricates and follows through for you.

—Basca designed, developed and produced Econ-O-Seal all-aluminum milk bottle closures. You can depend on Basca for every aluminum packaging need.

—Plan your promotion now—write for full details of the Bascal Tumbler program.

BASCA MANUFACTURING CO., INC. • 2222 N. OLNEY ST., INDIANAPOLIS, INDIANA

XUM

Everybody makes *more* money using GIRTON Farm Cooling Tanks

GIRTON Dairy Equipment
GIRTON MFG. CO.

★ **Greater profits for the Producer**
Ask for the 14 ways the Girton Farm Cooling Tank will make money for you!

★ **Lower costs for the Hauler**
Ask for the 5 ways bulk cooling will make money for you!

★ **Bigger returns for the Processor**
Ask for the 10 ways bulk cooling will make money for you!

Write for Complete Bulletin

See them at the Dairy Show — Chicago

GIRTON MANUFACTURING COMPANY
• MILLVILLE, PA.

INDUSTRY PROBLEMS

Sedimentation in Chocolate Milk

QUESTION — For several years we have been manufacturing our chocolate milk from a prepared syrup. Recently because of increased volume of sales, we have begun to use dry ingredients and are adding them to the milk in the pasteurizer during heating. We find this somewhat cheaper than the prepared syrups we previously used but are having trouble with sediment. Can you give us any hints that may help us with this problem?

E. C. Y., New York

ANSWER—You have not given me the formula that you are using to make your chocolate milk so I am at a bit of a loss as to what may be your trouble. As you are aware, cocoa contains from 3 to approximately 7 per cent of fibrous material which cannot be dissolved. This material has a specific gravity that is greater than the milk solids and will, therefore, settle to the bottom of the bottle in time.

Several factors should be considered in the prevention of the settling of the cocoa. The first of these is to select a cocoa that is very finely ground. There is a considerable difference between cocoas as they appear on the market and you should determine that the one you purchase for chocolate milk manufacture is as fine as you can obtain.

Increasing the viscosity of the chocolate milk will assist in preventing sedimentation but care should be exerted not to produce too great a viscosity. High viscosity, though often appealing to the consumer at first, will generally lose its appeal and in the end will reduce the consumption of your product. A considerable number of materials are in use for increasing viscosity, and I am listing some of them below, together with the approximate percentages to be included in the milk mixture.

Starch	0.75–1.0%
Gelatin	0.25–0.35%
Cocoloid	0.2%

If starch is used, the total mixture should be heated to 190° F. to insure increase in viscosity.

Cocoloid has given excellent results as far as sedimentation is concerned without producing an excessively high viscosity. It requires a pasteurization temperature of at least 150° F. to obtain proper results.

Some manufacturers prefer to add milk-solids-not-fat to their product as an aid in preventing sedimentation. This is advantageous nutritionally and produces a very satisfying drink. It is necessary to add about 5 per cent milk-solids-not-fat to obtain marked reduction in chocolate settlings.

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review." Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, New York.

Many chocolate milk manufacturers homogenize their product to prevent cream-layer formation. Homogenization for this purpose should be carried out before the addition of the cocoa; otherwise sedimentation will be increased rather than reduced.

How to Recognize Oleomargarine

QUESTION — I am anxious to know some simple test to recognize oleomargarine when it is served as butter without notice. I know that in many states the serving of oleomargarine is publicized by signs on the menu.

J. I. M., North Carolina

ANSWER—There is no simple test whereby one may recognize oleomargarine at a glance, nor is it possible for an untrained person to tell oleomargarine from butter by taste alone, especially when known samples of butter and oleomargarine are not available for comparison.

There is great variation between different samples of oleomargarine as to texture and body, but the characteristics are usually close enough to butter to make identification difficult.

Two simple tests for the differentiation of oleomargarine from butter are used. These are the foam test and the Waterhouse test which are outlined on page 371 of the Milk Industry Foundation laboratory manual. Neither test is readily applicable to use at a table in a restaurant but neither requires elaborate equipment. They could easily be run in a kitchen or in a very simple laboratory.

(Please Turn to Page 81)

WANT TO

Multiply YOUR PROFITS?

You can't multiply profits with a single performance—one delivery. But LIBERTY'S Quality Bottles return to perform again and again . . . 40-50-60 trips. Liberty's unique FLAME-POLISH Process not only insures original brilliance longer, it increases toughness and trippage. After a few trips, your bottle profits multiply as Liberty Bottles continue to return.

And because of their transparency, Liberty Bottles serve a many-fold purpose . . . for Pasteurized, Homogenized, Chocolate or Orange Drink. Your customers can see what you sell.

ONLY THE GLASS CONTAINER PERMITS PRODUCT INSPECTION AFTER SEALING

SPECIALIZING IN *Returnable* GLASS CONTAINERS SINCE 1918

Liberty Glass Company

SAPULPA, OKLAHOMA

Flanked by winners of dairy science keys, Loomis Burrell, Chairman of the Board of the Cherry-Burrell Corporation, receives a bronze plaque from Byron Schlag, new president of the Cornell Dairy Science Association.

Keys and cash were received by James Cannon, Edward Masurovsky, and John Tarr. John Vorperian, an alumnus of the University and a representative of the Nassau-Suffolk Milk Dealers Educational Committee made the awards.

Cornell Honors Loomis Burrell

LOOMIS BURRELL, chairman of the board of the Cherry-Burrell Corp., Little Falls, was honored at the annual spring meeting of the Cornell Dairy Science Association along with three outstanding students in dairy industry courses at the University.

Burrell received a bronze plaque and scroll from the Cornell Dairy Science Association for outstanding contribution to the dairy industry of New York. The students received dairy science keys and $25 checks contributed by the Nassau-Suffolk Milk Dealers Educational Committee.

Burrell was cited specifically for his achievements in the field of mechanical milking of cows and his early work on development of cream separators, sterilization of dairy equipment, and high temperature, short time pasteurizers, as well as his contributions to the writing of early ordinances and codes applied to milk and its products. He also did extensive work on metals and metal alloys in their relation to milk and milk products.

He is credited with three main avenues of development, which were largely responsible for the rapid development of the milking machine. One was building simplicity and reliability into the mechanical aspects of a pulsator; the second in building a machine that would milk cows clean without hand-stripping; and third, a machine and system that would bring about the production of clean milk.

Students receiving awards of dairy science keys and $25 checks were:

John Tarr of Waterloo, N. Y., for scholastic ability and extra curricular activities among 4-year-course students. Tarr is a junior.

Edmund Masurovsky of New York City, for interest and enthusiasm in the dairy science club's activities shown by a member of the freshman or sophomore class in the 4-year-course. He is a sophomore.

James F. Cannon of Troy, N. Y., for his interest and activity in the dairy science club as a 1-year dairy course student.

Tarr, whose father is owner of a dairy plant in Geneva, is a graduate of Geneva High School. At Cornell his grades are well above average, and he has been treasurer, secretary, and is president-elect of the Dairy Science Club. Among other activities, he is a member of the board of Cornell United Religious Work, editor of the Westminsterite, Ho-Nun-De-Kah, Alpha Zeta, and the Cornell Dairy Judging Team.

WE SPECIALIZE IN SELLING GRADE A MILK and CREAM

John Duzansky

Are You Looking for a Supply of Grade A Milk or Cream?

or

Do You Have a Supply of Grade A Milk or Cream to Sell?

We represent some of the largest producers and users of Grade A milk and milk products—

Call on us to help you with your problems.

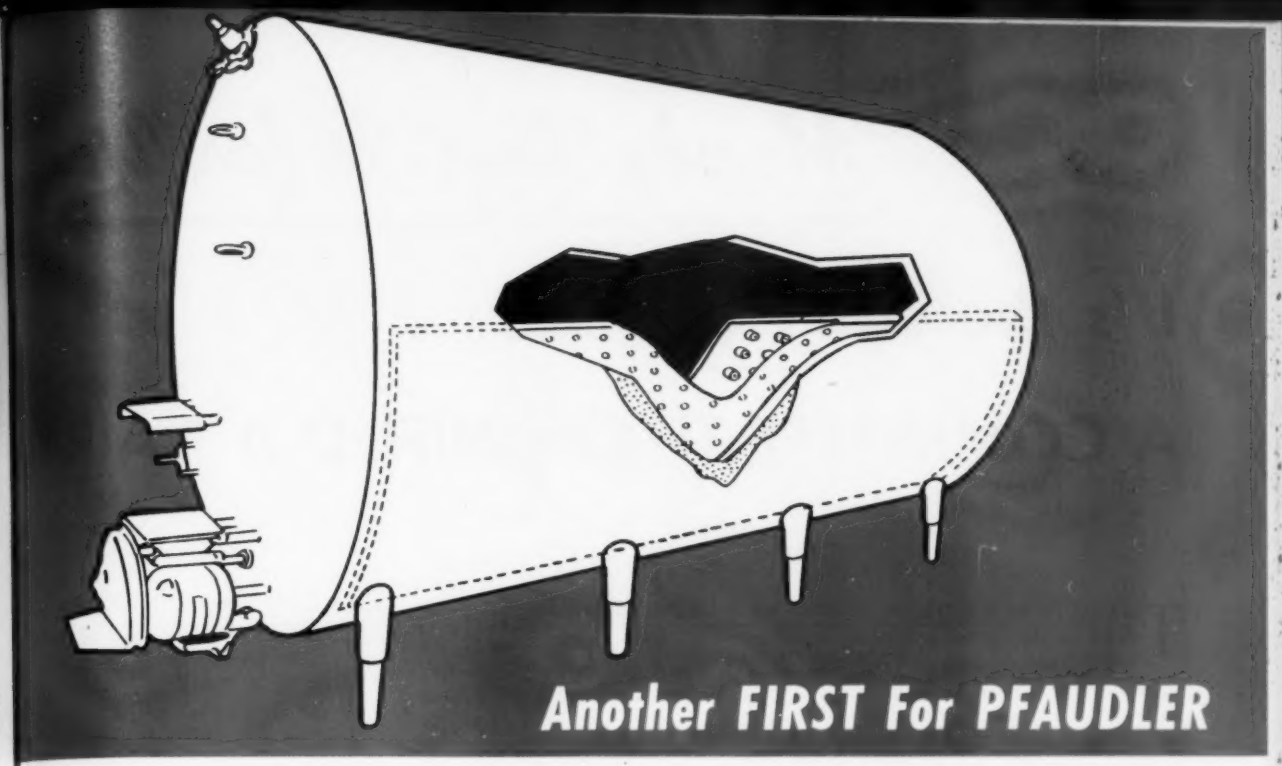
PURE FARMS MILK PRODUCTS, INC.

1938 W. Augusta Blvd. Chicago 22, Illinois

Telephone: BRunswick 8-1410

BROKERS — WHOLESALE MILK AND MILK PRODUCTS

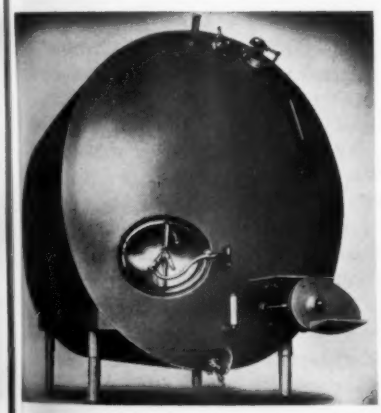
Paul F. Krueger



Another FIRST For PFAUDLER

APPROVED by the ASME...

All-welded refrigeration section in wall-cooled tank



PFAUDLER STAINLESS STEEL insulated dairy storage tanks are available with or without refrigeration equipment and in all *desired* dimensions. Capacities range from 600 to 8,000 gallons.

The ASME seal of approval* on the Pfaudler wall-cooled stainless steel storage tank assures you of protection at pressures well beyond normal use. With this extra margin of safety, you get extra years of low-cost, trouble-free service.

Factory-tested at 400 p.s.i., the all-welded refrigeration section meets all ASME requirements. This is made possible by the unique "dimpled" construction, as shown above.

Using ammonia, Freon or methyl chloride, the wall-cooled storage tank provides fast cooling, with portions of the tank liner serving as refrigeration surfaces. Hot and cold water in the jacket under pressure can also be recommended.

The majority of Pfaudler wall-cooled tanks are equipped with a thermovalve and back pressure-valve assembly, to save space and provide a system that is simple, sanitary, and easy to regulate. However, surge drum controls are also available.

Pfaudler stainless steel storage tanks can also be equipped with "D-X" (direct expansion) coil type and jacketed spray pipe refrigeration units.

* ASME code plate furnished when requested at slight price addition.

Get the complete story in the new Pfaudler Storage Tank Catalog. Ask your Pfaudler Dairy Distributor or write direct for Bulletin 884.

Pfaudler

THE PFAUDLER CO., ROCHESTER 3, NEW YORK

STAINLESS STEEL PASTEURIZERS, PROCESS VATS, STORAGE AND WALL-COOLED TANKS

Maybe This Is for You

It's the story of——

A COMMITTEE THAT UNIFIED A DAIRY

By A. A. SAUNDERS

THERE IS MORE THAN ONE WAY to skin a cat and there is more than one way to handle a labor problem. A milk company in California developed a committee of employees and management representatives to work out the kinks in their relationships.

The body of this committee consists of six people, three of whom are chosen from the field of management and three from the ranks of labor. The whole thing was conceived and set up by the board of directors as a means of resolving spots of friction that sometimes develop between the worker and his company. It was founded on the belief that most difficulties come about through a mutual lack of understanding of the problems that arise from day to day. So in order to improve the means of communication between the executives and the employees, to explain management's problem to labor, and to explain labor's problem to management, they created and put in effect this management-labor committee.

In this dairy the committee meets every Friday, each meeting lasts for about one hour, and each of the official members receives pay for the time the body is in session.

The personnel manager has a permanent seat on the committee and management's two other representatives are chosen from the other executives. All members, excepting the personnel manager, retain their appointment for six months. The meetings are open to anyone in the dairy, but only the six authorized members are entitled to vote upon issues that require arbitration.

The board of directors authorized the committee to settle the usual run of labor problems that arise in the dairy organization, to seek out ways to improve the general welfare of the worker, and to decide who is to receive promotions whenever vacancies occur. All decisions must conform to the conditions contained in the prevailing labor contracts and to the managerial policy of the company; beyond these restrictions they have complete authority.

Bring Your Pet Peeve

Every employee in the dairy is urged to bring his "pet peeve" before the committee who will lay it open for thorough discussion and examination. Necessary steps are taken to correct any gripe that is found to be based on either faulty operation or policy. Those that are found to be unavoidable, or spring from a misunderstanding on the part of the individual are explained to him so that he knows why the condition that is objected to must continue to exist.

The committee encourages the employees to present to it suggestions for the improvement of safety around the dairy. Upon the bulletin board which is displayed in a conspicuous spot it announces that no safety idea is too small or too large for its consideration. As a result, one worker brought to its attention the fact that a two-step stairs leading out of a main building was frequently slippery. The committee immediately ordered a rubber mat through the purchasing department and saw to it that the steps were covered, thereby avoiding an accident at a dangerous spot before it happened. Another time, an employee brought to its notice that the closest first aid kit was in the office which was a considerable distance from the building in which he worked. An additional kit was bought and put within his easy reach. These are but two examples of the many safety installations the body has attended to upon the suggestion of the personnel.

On another occasion it was brought out in the meeting that when employees purchased automobiles, appliances, furniture and similar necessities for good living, they were often required to sign conditional sales contracts that contained unfavorable clauses and called for the payment of excessive interest rates. To correct this condition, a bank club within the dairy organization was promoted. All employees were invited to join and deposit a portion of their savings in the club. Depositors were guaranteed a 4% interest return upon their money, and funds could be withdrawn at any time by giving proper notice. All depositors are allowed to borrow money from the club at 8% interest on the unpaid monthly balance, and arrangements can be made to repay the loan from salary deductions. Not only has the club proved to be workable but has become so popular with the employees that it has the money to, and actually does, finance about everything they buy.

As directed, the committee takes concrete steps to look after the general well-being of the employees and their immediate families. When a worker is sick, a sub-committee is ap-

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pointed to keep in close contact with him to see that he gets proper medical care and to cheer him up generally. If finances are needed to cover the emergency, these are arranged for through the bank club. Similar services are conferred upon the members of a worker's family should one of them be taken seriously ill and be in need of outside assistance. In this way when trouble hits, an employee knows the whole company is behind him to see him safely over the rough spot.

The committee also fulfills its obligation to keep employees posted on managerial problems. To accomplish this, the group studies the trend of current economic conditions. It keeps up on new improvements that are apt to affect the production, distribution, or consumption of milk and dairy products. It also considers any legislation either proposed or passed that affects the dairy business and also studies all tax measures that are imposed upon either the dairy industry or their own company which is subjected to all corporation taxation. They also keep abreast of the restriction placed upon farmers by the Department of Agriculture. In addition to all this they discuss world affairs, national and international politics or anything else that might affect their job or the executive policy of the dairy.

The employee members of the committee serve for a period of six months. Originally their term was for one year, but this was reduced for two reasons: first, more workers are allowed to participate through shorter terms; second, it was found that after six months, workers are inclined to become management-minded and lose touch with the employees whom they are chosen to represent. In order to clarify this second point, the personnel manager explained that workers do not intend to cater to management, but that the average American citizen is a fair-minded person, and whether garbed in over-alls or not, when he learns the complicated issues that confront dairy executives, he tends to get sympathetic and leans over backwards to be fair to management.

The personnel manager then went on to cite five ways the dairy has profited by setting up this management-labor committee which are as follows:

1—It has broken down the reserve with which executives had surrounded themselves, and furthermore has subjected management to checks and balances. On one hand, this has removed the atmosphere of stuffiness from every corner of the dairy; on the other hand, it has made executives better managers.

2—It has extended to every worker the privilege of being treated as an adult person and granted to him the human dignity and respect which as an American citizen he is entitled to. This makes employees better workers.

3—It does away with paternalism by giving the workers a definite part in running the dairy. This means the employee is proud to be working for his company and exerts more initiative in his job.

4—It has sponsored a "belonging to" feeling inside each employee which gives him a sense of security in his work. This makes him think deeply before quitting to accept other work. As a result, the personnel is cemented to the dairy, an important advantage in periods of tight labor markets.

5—It has cut down the expense of employee training and has increased the over-all efficiency in the dairy.

To sum up the importance of the management-labor committee, this executive said, "Any one of the five benefits would be worth while since each has brought net profit to the company, but when all of them are considered together, it proves to be one of the most important projects in the dairy."

Matter of Fact
BY EDWARD A JOSEPH
AMERICAN AGRICULTURAL AND DAIRY FARMERS OWN 5,350,000 PASSENGER CARS 2,500,000 TRUCKS AND 3,400,000 TRACTORS
THESE FIGURES ARE TWICE AS MANY AS IN 1941
EARLY AMERICAN SILVER BABY NIPPLE USED AROUND 1800
THANKS TO THE GWINN COLLECTION, PHILADELPHIA, PENNA.
ICE CREAM FACTORIES IN THIS COUNTRY USE MORE MILK ANNUALLY THAN 1,000,000 COWS CAN PRODUCE
A CHEESECLOTH IN AMERICA IS CALLED A BUTTER-MUSLIN IN ENGLAND

Tank Trucks On Farm Pickup Routes Should Get Through

IF THE MAN this department keeps at a listening post to see what is going on in the industry has not given us a bad steer, there is some discussion, concern and speculation going on relative to the possibilities of collecting milk from the producer by means of tank trucks. The tank truck would replace, of course, the truck designed essentially for carrying dry freight and eliminate the necessity of handling and returning the cumbersome milk cans.

Just what the intricacies of training drivers to collect only acceptable milk might be this department will dismiss as not within its province and certainly not within its knowledge. This article will be confined to the equipment and adapting it to the specific job.

Since milk is already being hauled in tank trucks, there is no difficulty in hauling milk in bulk *per se*. The apprehension, if that is not too strong a word, is caused by doubt of the ability of the tank truck to leave the better types of highways and get into the byways where the going is not so good.

There are some problems connected with a project of this kind, but it can be done. Trucks are wonderfully adaptable hunks of machinery if they are selected carefully by someone who has a knowledge of the job which they are to do.

To begin with, the big units that transport milk in bulk over improved highways will not do for farm collection. The collection truck will be geared differently because it is not to be used at high sustained speed. It will undoubtedly be smaller, to get greater maneuverability. It may or may not be a tractor-semitrailer combination, although the combination has its points.

The tires will not be the highway type. They will have a different type tread for the bad going, and they must be able to provide greater floatation. The equipment itself will have to be as light as practicable to reduce the gross weight for the amount of milk carried.

Another important feature is that the tank must be self-loading. There is no use doing the job halfway, and there is no point in having a driver scrambling around and over a tank with a milk can. This means that the vehicle will require a power take-off and a suitable pump. Included will be a meter to measure the milk going in as soon as somebody invents one.

None of this sounds too difficult. In the far western wheat fields, truck operators are going right into the fields and loading wheat. Before the tank truck reached the fields, the farmers used to sack the wheat and haul it on a conventional truck to its destination. Now they place it in a bin where the truck loads it in bulk like a liquid. The loading device in this case is a worm driven by a separate small engine. For convenience the small engine is not on the truck but is moved about in the wheat field.

Equipment used in this type of work has reached 69,000 lb. gvw. The weight is far beyond that permitted in many states and appears to be impractical for milk collection. It is given here simply to show that heavy trucks can leave class A roads successfully.

Perhaps the oil refiners in their field work provide an example to instill confidence in the operator who wonders about rough going for trucks. Some of the oil field vehicles have forgotten what a road of any kind looks like. These vehicles range through all sizes and weights.

To these two industry examples can be added logging and construction work. In both of these cases trucks operate over more rugged terrain than will ever be encountered in milk collection. With good maintenance, the trucks are not short lived.

This discussion might lead the casual reader to believe that all milk collection trucks have to travel on poor roads, and such is not the case. Only a fraction of the collection trucks ever leave perfectly good highways.

The economics of tank truck collection are not clear, but they are favorable. Until some experience has been compiled, it is futile to attempt detailed comparisons. However, the elimination of considerable manual labor obviously speeds up the process and this means a saving of money.

On the other hand, the vehicle is going to cost more money, but fewer vehicles will collect more milk. There should be some saving in cans.

It will be strange if the use of tank trucks does not cause a change in routing. The more economical trucks can transport the milk further for less. This in time would mean that collection points and processing plants could be further apart. In turn this could eliminate some of the handling necessary in the present program.

Truck Topics is a new feature that appears exclusively in the *American Milk Review*. Written by a national authority on truck fleet operation, the page offers a unique opportunity to milk distributors. Nowhere can you get as much accurate information for as little effort as you can by reading this column. If you have some questions that you would like explored, write to "Truck Topics" care of *American Milk Review*, 92 Warren St., New York 7, N. Y.

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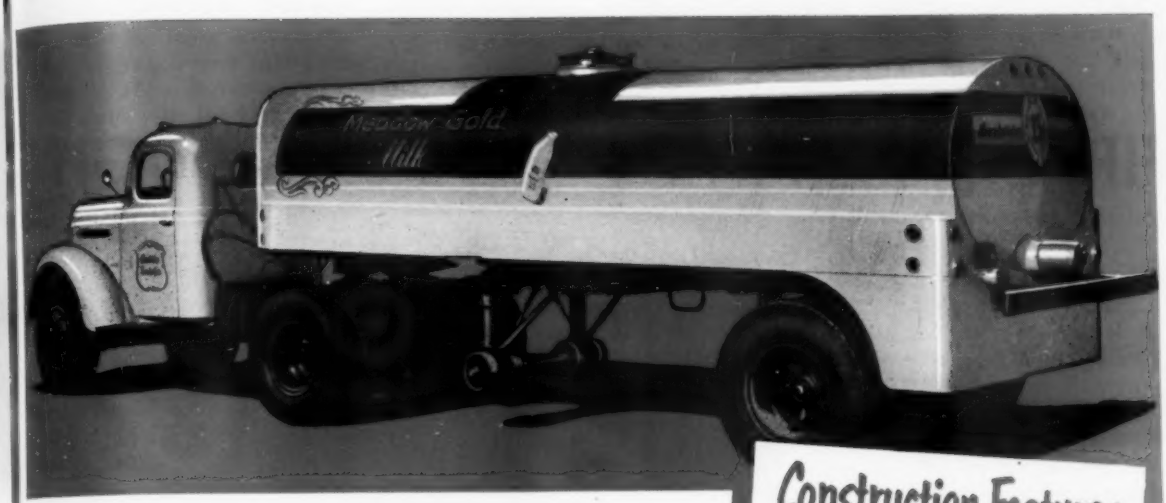
Milk Haulers Agree—FRUEHAUF IS *YOUR* BEST TRAILER BUY!



Design Features in a Fruehauf keep Tanks light, without sacrificing strength!

FROM top to bottom sturdy, light weight Fruehauf Milk Tank-Trailers are the best engineered units on the road.

The 18-8 Stainless Steel tank conforms to food law requirements. Two-inch corkboard insulation assures safe load-carrying temperatures.

A Z-frame chassis of pressed steel is lightweight yet sturdy, with additional strength designed into all cross-members. It is continuously mounted to tank to become an integral load carrying part of the Unit.

Fruehaufs are available with single-axle "Multi-Rate" Suspensions for loads up to 3000 gallons—or with Fruehauf's exclusive Gravity-Tandem Suspension for gallonage to 4200.

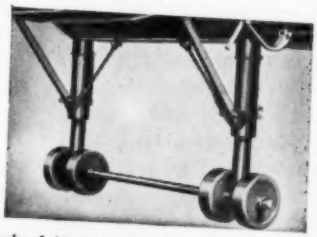
Special options include items such as side discharge valves, grab rails and Stainless Steel dust covers.

A complete and comprehensive guide-book on Fruehauf Tank-Trailers for *every* liquid hauling need is available upon request. It illustrates, describes and gives specifications for the milk tank as well as a host of other units. Your *free* copy is waiting. Write, Fruehauf Trailer Company, Dept. M, Detroit 32, Michigan.

Construction Features

SPEED UP DELIVERIES REQUIRE LESS MAINTENANCE

Fruehauf's exclusive "Multi-Rate" Single Axle Suspension provides proper springing from no load to overload — offers an easy "cushioned ride," protects tank while loaded or empty. "Multi-Rate" is exceptionally easy on tires, is trouble-free. Saves on gas too!



Fruehauf Vertical Supports roll up or down quickly, safely. A special speed gear reduces cranking, is easier on the operator. Triple braced, the supports are always in position to prevent Trailer against "nose-diving."

FRUEHAUF Trailers

WORLD'S LARGEST BUILDERS OF TRUCK-TRAILERS

Destruction of Records, Interruption of Business, Lost Customers — These Are Some of the Important Details That Say

FIRE INSURANCE IS NOT ENOUGH!

By ERNEST W. FAIR

COULD YOU AND I stay in business if hit by a fire, even with that comprehensive fire insurance coverage we have?

The answer is anything but the definite "YES" we hastily volunteer if we have never had such an experience. One of the great delusions of businessmen is that fire insurance takes care of everything; that we will be back at the old stand better than ever as soon as the policies are settled.

And great delusion it is, for statistics show that *43 out of every 100 firms that lose their records by fire don't reopen!*

For these 43 out of 100 firms, fire insurance was definitely not enough. The dairy plant operator's protection has to go far beyond making certain that he is well covered by fire insurance.

Extensive records compiled over many years show the importance of additional precautions, and just what these safeguards should be. Here are the steps that should be taken.

Make Sure of the Safe. Most old-fashioned safes are nothing but incinerators . . . make certain that your safe is a modern one of proper construction, and that it is not only burglar proof but heat proof as well. Some fireproof safes are just like fireproof buildings, they only *contain* a fire.

Insurance Recovery Calls for Proper Records. The insurance company as a matter of good business must insist on some proof of loss on every fire it insures before it can settle any claim.

—Ewing Galloway

When the fire sirens wail and the flames consume a business establishment, it is too late to mend the negligence that has caused many a thriving enterprise to close its doors for good. Fire insurance is not enough.

Today it is almost impossible to collect fully on fire insurance without records to make up a proof-of-loss statement.

One good way besides making certain the firm records are in an efficient and modern safe is to put such records in another place of safekeeping, *i. e.*, a bank vault, or even have a copy of assets and the last inventory filed in the office of your local insurance agent.

You cannot always depend on records being available if they are contained only within your plant buildings.

Protect Accounts Receivable. The kind of insurance that will assure payment of all accounts receivable, should these records be lost, is unknown today. Some of your customers will cooperate and pay voluntarily under such circumstances. A great many will take advantage of the all too human trait of trying to get away with something when the opportunity presents itself.

If you cannot be sure these accounts receivable records are in a positive fireproof safe or storage vault, it is a fairly simple matter to have an extra copy made at billing time each month and these extra statements kept in another place of safety such as one's safety deposit box at the bank.

Use Microfilm for Records. A number of firms are using microfilm machines for transfer and safekeeping of records. The cost of one of these machines always is repaid in savings on filing and storage of records costs alone. Generally one can store a filing cabinet full of records on a single tiny reel of film.

All of the firm's records for many years can thus be kept in a tiny inexpensive and fireproof safe.

Make Sure Everything Is Insured. Far too often operators store temporarily supplies, machinery and equipment in the plant—items not covered by the over-all policy. It is often difficult to convince an insurance adjuster that such out of the ordinary items were actually in the plant.

Best procedure is to keep them elsewhere or have them covered by other policies. Taking a chance that nothing will happen while a specific unit is in the building is a good way to make certain Lady Luck pulls the chair out from under you.

Have the Best Fire Fighting Equipment. Sure, you can recover cash for fire loss if you are properly insured, but cash itself cannot replace lost records, destroyed goods which may not be available because of shortages, or machinery and equipment that cannot be purchased for a long time because of production backlogs.

Any insurance coverage program can, by the way, well include more than fire insurance . . . business interruption insurance, for example, will help bridge the gap until you can get opened up for business again. This type of insurance provides income from the time the doors are closed because of fire until they can be reopened for business again.

Every day you lose while closed because of fire means your customers must go elsewhere for their needs. You will lose a lot of them in the process. Fire insurance cannot protect you against this. Business interruption insurance will take care of some of the loss but not a great deal.

The best policy is not to have the fire and to have adequate equipment all through the plant to put out the little fire that can so easily get away and destroy the whole plant.

Plan How to Stay in Business. The biggest loss you will suffer may very well not be in the damage done by the fire but in the loss of business while a new location is being found or the plant being rebuilt.

If you have a plan for staying in business worked out in advance, the firm's business interruption may not be more than a single day after the fire unless the entire plant is destroyed. This can easily be done by maintenance of warehousing facilities in another location and keeping a diversified stock of supplies in that warehouse as well as old replaced units which can, if need arises, be put back into service and do until you can get new ones from the factory.

September and the big dairy week in Chicago are just around the corner. The world's biggest industrial show, the two major dairy processor conventions, and a city worth visiting top the bill.

Better plan *now* to be there. Get your hotel reservations early. Allow yourself plenty of time. Enjoy yourself.

Any plan which will permit going into business again immediately after such a fire will bridge the gap and hold the customers as well as most of the regular daily business profits.

Secure a Local Co-operation Agreement. It may be difficult to get all of the dairy products plant owners in any one community to agree on anything, but even the most stubborn plant owner can generally be sold on participating in a "disaster" program if it is kept as simple as possible and limited to basic requirements.

Such an agreement can provide for all contributing, loaning or selling supplies, materials, equipment, etc., to set up in business again for the damaged party or for processing part of the damaged plant's production until it is on its feet again.

Beware of Bargain Fire Insurance. Bargain fire insurance is worse than no insurance at all, for it gives one a false sense of security. Every policy should be checked by a lawyer for actual coverage it provides and the restrictions on that coverage embodied in the policy. You should have an everyday language report from him so that you will always know exactly what your insurance dollar is buying.

Cut-rate fire insurance exists only because the policy or contract contains inadequate coverage or a host of loopholes which leave you holding a very large but quite empty sack when settlement time comes. You can sue the daylights out of such a company but it will get you nowhere, for their contracts, you may be sure, have been created legally foolproof.

Deal with a Local Agent Businessman if Possible. Speed is essential in avoiding heavy loss in case of fire; speed in settlement of the claim by the company to facilitate your return to active business. The local agent can provide that speed. There may be any number of delays if a distant office must be contacted and a wandering adjuster located. It is also a mighty good idea to find out at the time the policy is being purchased just who the company's claim adjuster is and where he is located so that he can be reached even should the local agent be unavailable.

Make Certain Personnel Know What to Do. As stated so often by businessmen who have had fires . . . "despite full payment of my policies, I'd be better off if I'd never had a fire" . . . and there are words of wisdom in that statement. Making certain every person on the plant payroll knows exactly what to do in case of fire and knows how to do it will help prevent one getting under way and doing great damage.

The best way to make sure this knowledge is correct is to have the local fire chief come in and explain everything to the staff at a meeting held at least once a year; he will be glad to do it, and he knows best what to do and how to do it.

It is an excellent idea to remember the fact mentioned earlier . . . 43 out of every 100 firms who lose their records by fire don't reopen. Take all of these extra precautions and do not depend on a little fire insurance policy alone to protect the welfare of your plant and business.

A Sales Program for

COTTAGE CHEESE and SOUR CREAM

The Promotion Material Costs Only a Little

But Experience Shows That It Sells a Lot

CALIFORNIA continues to be top dog in the cottage cheese business. R. J. Werner, formerly manager of the California Dairy Industry Advisory Board and now Assistant Executive Director of the Milk Industry Foundation, says that while there was a little bigger demand for cottage cheese in California to begin with most of the big volume that California dairymen are moving was built up by smart selling. He believes that any other market in the country could do the same. What's more he has some recent market experiences to back up his belief.

The cornerstone of any successful cottage cheese program is quality. One of the pioneers in cottage cheese on the west coast was Knudsen Creamery Company. This firm has a reputation for putting out one of the best packages of cottage cheese in the state. The reputation was deliberately and studiously gained. The company devoted a great deal of time and money in creating a superior cheese *and then proceeded to sell it.* The quality product came first. The selling program came second.

In his work with the California Dairy Industry Advisory Board and now with the Milk Industry Foundation, Mr. Werner uses a cottage cheese sales promotion plan. This plan in outline is as follows:

Cottage Cheese Sales Promotion Plan

Purpose: To increase the per capita consumption of cottage cheese in a given market or group of markets.

I. The advantages of this plan are:

1. To increase the profit units as well as the unit load.

2. Secure group action which will increase total sales rather than switch sales.

3. To secure valuable publicity which can be had on commodities but could not be had on brand-named commodities.

II. Important facts:

1. All advertising will help total sales.

2. Brand advertising will complement other brand advertising as well as publicity.

3. Point of sale material will get better coverage at less cost.

4. Housewife is economy-minded.

5. Cottage cheese is an economy food.

6. Men and women are nutrition-minded.

7. Cottage cheese is nutritious.

8. Newspapers want news as well as ads.

9. Good health is news.

10. Economical foods are news.

11. Cottage cheese is an economy food.

It is a complete protein (builds, repairs, and maintains body tissue).

A pound of cottage cheese has the food value of 1 lb. of meat.

Cottage cheese is easily digestible.

Cottage cheese can be used in many ways.

12. Cottage cheese is an excellent source of valuable calcium.

III. The Plan:

1. Be sure the quality is right.
   (a) Laboratory checks;
   (b) Consumer reactions;
   (c) Scoring by State Experiment Stations;
   (d) Compare with competitor's product.

2. Secy. Dealers Association or Dairy Council.

(a) Prepare copy for news articles;

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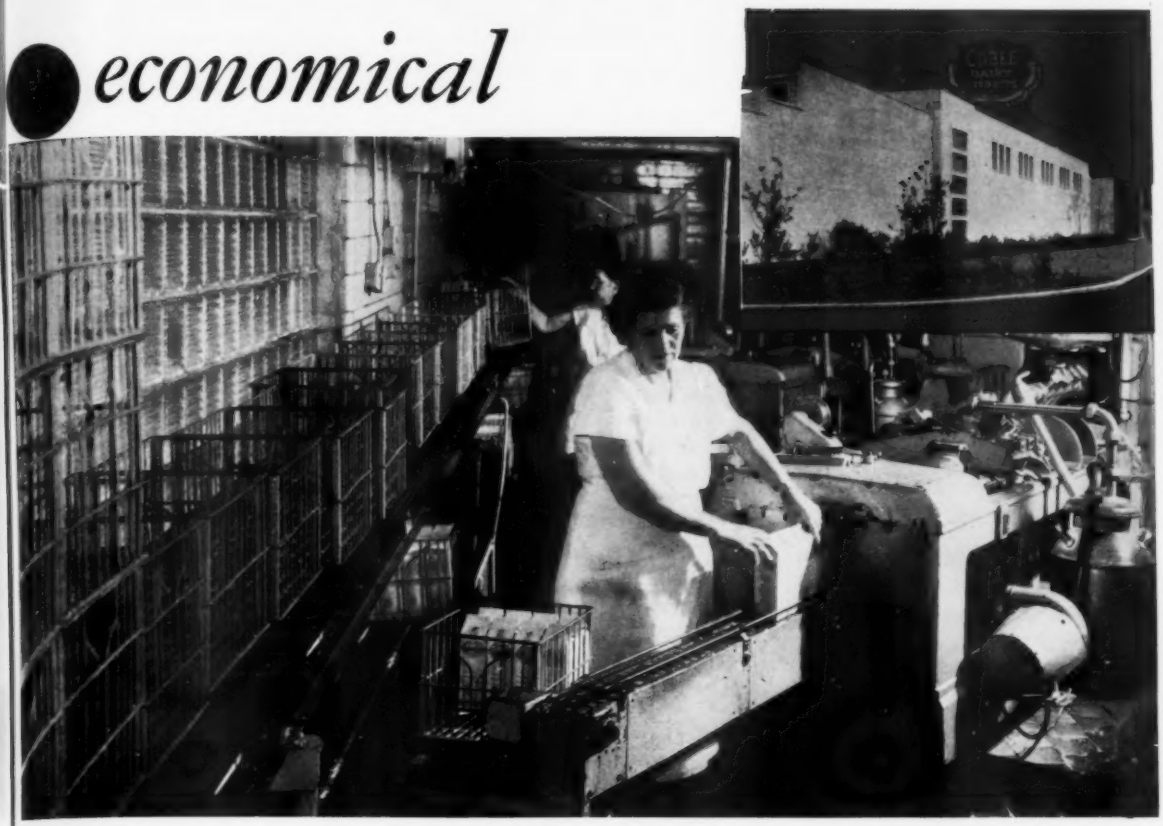
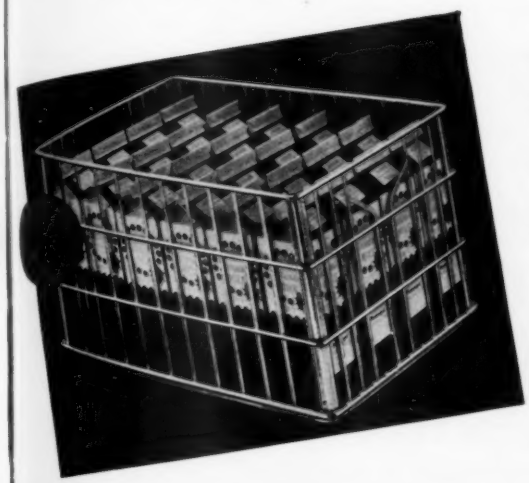
economical



Economical, sanitary United Steel Paper Bottle Cases are quickly filled from a battery of Ex-Cello Pure-Pak Milk Packaging Machines (including half gallon equipment at the Coble plant in Lexington, North Carolina.

united steel *cases cut costs*



Economy is the main reason why dairymen in all parts of the United States, and abroad, prefer United Steel and Wire Milk Cases. With United Cases you get savings in initial and replacement costs . . . in cooling time . . . in floor space . . . in storage and handling costs . . . and, last but not least, in cleaning time. (A quick scalding is all they need . . . they dry quicker, never rot because they can't hold moisture.)

And with United Cases you're assured of sanitation . . . because they have no crevices where bacteria can hide . . . no place for refuse to cling. So, whether you use round or square glass bottles or paper cartons, there's a United Case designed to fit your needs . . . designed to give you sanitation and economy too!! For complete information write Dept. MD today!

UNITED STEEL AND WIRE COMPANY
137 Fonda Avenue, BATTLE CREEK, MICHIGAN

(b) Get photographs of food dishes;
(c) Schedule Service Club talks;
(d) Schedule Women's Club talks;
(e) Secure cooperation of ADA;
(f) Get 1) Recipe Books, 2) Envelopes, 3) Stamps;
(g) Store Display Material;

3. Dealers.
(a) Prepare advertising;
(b) Prepare store displays;
(c) Sales contests for drivers;
(d) Contact Restaurants and Hotels featuring Cottage Cheese;
(e) Advertising Agencies work with Secy. and Dairy Council;
(f) Print cards for own customers;
(g) Order Recipe Books for own customers.

4. Set Dates for Campaign.

5. Contact.
(a) Food page editors;
(b) Radio, women's editors;
(c) Television.

6. Follow through.

It Does the Job

The program works. It will work for a single firm or it will work for a market-wide group of firms. Ryder's Dairy of Lemoyne, Pennsylvania used the Cottage Cheese Recipe Book for a cottage cheese sales campaign. Kathleen R. Tysinger, sales manager for the company, reported "Our sales have increased about 35 per cent. The increase on individual routes is as great as five times as much as our records show for the same period in 1951."

Let's Get Acquainted with SOUR CREAM

The piquant flavor of SOUR CREAM heightens the taste of most ordinary foods. With SOUR CREAM a new tang is added to foods that will thrill the family gourmets and at the same time increase the important nutritive values of the meals.

A Free Booklet of SOUR CREAM Recipes is yours. Just sign this card and put it out for your milk man to pick up and this booklet will reach you promptly.

Name .....

Street .....

City .....

On the coast the Alameda-Contra marketing area did a similar stunt with a Sour Cream Recipe book. The area reported a 24 per cent increase in sour cream sales during December 1951 over December, 1950. The San Mateo County marketing area increased sour cream 28 per cent during the same period using the same device.

Arden Farms went at sour cream sales a little more scientifically. Using the techniques outlined in Mr. Werner's Cottage Cheese Sales Promotion Plan, substituting the Sour Cream Recipe Book for Cottage Cheese recipes, the firm tried out the program on twenty routes using twenty other routes, on which the program was not employed, as a control. During the campaign the routes where the sales program was used experienced a 56 per cent increase in sour cream sales. Six months later sour cream sales had dropped from the campaign high of 56 per cent to a solid 33 per cent over what they had been before the sales campaign was launched. That 33 per cent of continued business is the big figure.

The way in which this sort of a selling campaign can snowball into

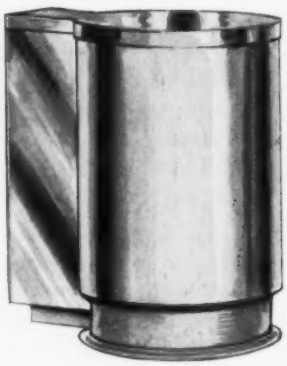
SUB-ZERO ICE CHIPS OR SNOW FLAKES

In Your Plant When You Need Them with The

KENT ICE MACHINE

ICE

For Low as $1.00 per ton



Many dairies are cutting their expenses by making their own ICE. Get the startling facts on the KENT ICE MACHINE.

Mail Coupon for FREE new, illustrated Booklet. Ice units available from 1 to 100 tons. No top oil seals to leak oil into your ice!

KENT ICE MACHINE COMPANY
2210 S. Michigan Ave., Chicago 16, Ill.
DA-6-6434-5-6

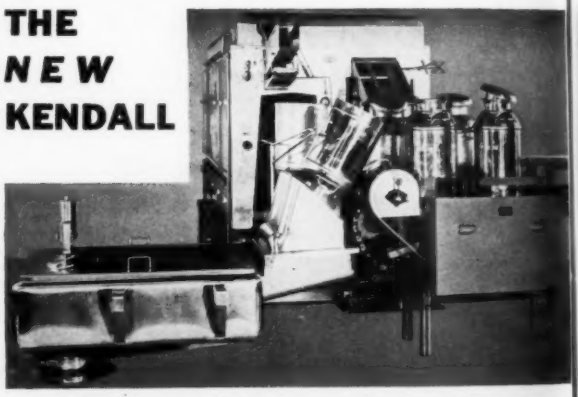
FREE BOOKLET COUPON

KENT ICE MACHINE COMPANY, Dept. A
2210 S. Michigan Ave. Chicago 16, Ill.

Send us your new FREE BOOKLET on your KENT ICE MACHINES.

Name .....
Address .....
City ..... Zone ... State .....
Number of tons used .....

THE NEW KENDALL



RETURNLINE CAN WASHER

FEATURING A 150° DUMPING ARRANGEMENT

✔ THESE FEATURES

★ Partition separates cleaning from sterilizing stations.
★ Saves costly space.
★ Provides maximum visual inspection for incoming AND outgoing cans.
★ Eliminates necessity for separate reject conveyor.
★ Completely accessible for cleaning and adjusting.
★ All controls within easy reach.

KENDALL-LAMAR CORP.

POTSDAM, NEW YORK

something pretty hefty is illustrated by a recent project in Washington D. C. Mr. Werner was the instigator of the undertaking. Although he has no desire to be in the limelight, he has had so much to do with these cottage cheese and sour cream deals that it is practically impossible to tell the story without bringing him into it. Mr. Werner got the milk dealers in Washington to try out a limited sales plan for cottage cheese and sour cream. They agreed to pay for the recipe books and the mailing costs. The food editors on the Washington papers were given recipe books and furnished with some photographs of various cottage cheese dishes. The result was a big play on the food pages, 212 column inches of space are known to have been used. More than 1800 requests for booklets have been received. These were all requests that had to be written as the result of reading about the books in the newspapers. Although the campaign started in October of 1951 requests are still coming in. The cost of this campaign to Washington dealers was something under a hundred dollars for the entire market.

The recipe booklets which, along with the basic consideration of a quality product, are the core of these campaigns are available from the Milk Industry Foundation. The Cottage Cheese Recipe Book contains 30 pages. The Sour Cream Recipe Book has 23 pages. The recipes have all been thoroughly tested and, judging from the remarkable results they have achieved, they are mighty tasty dishes.

"Make it 2 quarts a day from now on."

NORTH AMERICAN APPOINTS SALES MANAGER

F. Robert Noonan, president of North American Creameries has announced the appointment of Earl P. Kiesner as sales manager of the Wholesale Division of the company, which distributes food products in Minnesota and North and South Dakota.

Mr. Kiesner, well-known in the grocery business in this area, was formerly sales manager of the McGarvey Coffee Company, Minneapolis. Prior to that time, Mr. Kiesner was sales and promotion representative for the Lipton Tea Company.

Mr. Kiesner has been active in the National Sales Executives Club, the Chamber of Commerce and the Association of Manufacturers Representatives. Mr. Kiesner lives at 5916 Beard Avenue South, Minneapolis.

North American operates plants in North Dakota, South Dakota, and Minnesota. The company has maintained buying stations for farm products in the three states for the past fifty years. It distributes milk products, butter, eggs, and ice cream under the brand names of Arvilla, Fiesta, and Alaskan Treat.

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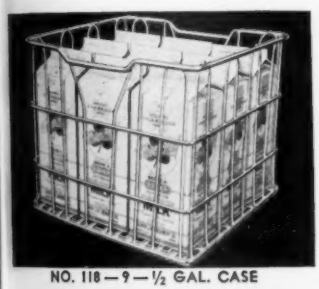

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On The Legal Side

Recent Court Decisions on Milk

By ALBERT W. GRAY

MILK REGULATION VOID

A MILK regulation adopted by the New Jersey Department of Health was "The State Department of Health does hereby require that all plants approved for the distribution or sale of fluid milk in New Jersey shall have their permanent permit so conditioned that New Jersey can command fifty per cent of its approved milk at any time during the period of the permit."

The court in that State, holding this regulation unenforceable and void said, "Within the area of our research this regulation seems to be one wrapped in the solitude of its own originality. Economic welfare is always related to health, for there can be no health when men are starving. But let such an exception be admitted and all that the State will have to do in times of stress and strain is to say that the farmers and merchants and workmen must be protected against competition from without lest they go upon the poor relief lists and perish altogether. To give entrance to that excuse would be to invite a speedy end of our national solidarity."

Welsh Farms vs. Bergsma, 84 A.2d 631, New Jersey, Nov. 16, 1951.

LICENSE ORDINANCE VOID

An action by the Rose Lawn Dairy in Oklahoma involved the enforcement of an ordinance of the city of Henryetta in that State which required that the processor of milk not only pay a license fee but also a producer's license and inspection fee, if the producer did not pay such fee, has been declared void by the Supreme Court of that State.

That the processor should be compelled to pay license and inspection fees of the producers, said the Court, where these producers have not procured permits from the city, is an exaction that cannot be sustained as a reasonable regulation under the police powers vested in the city. It is conceded that the milk business is affected with public interest and is subject to regulation but such regulation cannot be arbitrary and discriminatory.

City of Henryetta *v.* Rose Lawn Dairy, 239 P. 2d 744, Oklahoma, January 8, 1952.

"DAIRY QUEEN"

The Wisconsin Director of the State Department of Agriculture, on January 8, 1952, was prohibited by the Supreme Court of that state from interfering with the sale of "Dairy Queen," a semi-frozen food similar to ice cream, under a statute banning a sale of any "imitation ice cream" milk product containing less than 13 per cent milk fat.

The Court held "Dairy Queen" not an imitation of ice cream and its sale not prohibited by this statute. On April 8th in its denial of a rehearing, the Court said,

"If a law creating, maintaining or sustaining a monopoly and purporting to prevent the sale of a wholesome product under circumstances which will not deceive the public, and to be sold without injury to any group except the monopoly, is to be declared a valid enactment, some other court must be called upon to do so."

Dairy Queen of Wisconsin *v.* McDowell, 52 N.W. 2d 791, Wisconsin, April 8, 1952.

PENALTY PAYMENTS ILLEGAL

A handler purchasing cream and condensed milk from an Ohio plant and reselling it in the New York area to small ice cream manufacturing establishments contended that the penalty payments imposed by section 927.9(h)(2)(i) of order No. 27 of the Secretary of Agriculture, were an illegal discrimination in price.

"That section," said the Federal Appellate Court," provides for a penalty payment computed as any plus amount obtained by subtracting the applicable Cleveland order price from the New York class-in-which-used price. But in the absence of any showing of administrative necessity, we are constrained to hold that any discrimination in price is contrary to the requirement of uniformity."

Kass *v.* Brennan, U. S. Court of Appeals, April 30, 1952.

SMALL BOY AND BROKEN BOTTLE

A Los Angeles, California resident told a retail milk dealer to leave glass containers or milk bottles nowhere but in his refrigerator. An empty milk bottle was left on the back porch. His small son picked up the glass bottle, then fell off the back porch. The bottle was broken and the child was cut.

The approximate cause of the injury, said the court in dismissing the action against the milk dealer, was the fall from the porch, not the dealer's negligence in leaving the milk bottle as he did.

Eards *v.* Marks, 241 P. 2d 582, California, March 19, 1952.

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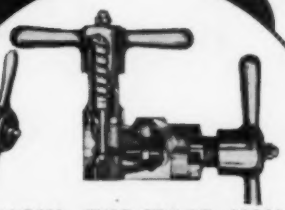

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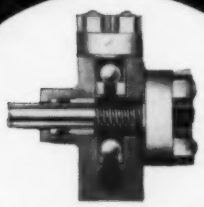

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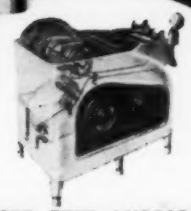

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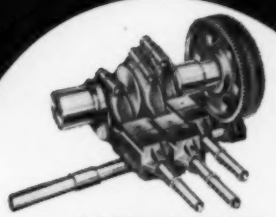

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FIVE YEARS EXPERIENCE WITH BULK HANDLING

(Continued from Page 26)

provide ample room for washing and sterilizing. Where bulk milk cooling tanks are used, there shall be running cold water and a sufficient supply of hot water.

Other provisions provide that both producers and milk dealers desiring to utilize these methods or desiring to purchase milk from dairy farms employing these methods must obtain permission from the Commissioner before doing so.

The Connecticut Milk Regulation Board has adopted certain provisions regarding the taking and handling of butterfat samples from these farm tanks. These regulations basically provide that the sampling shall be done by a properly licensed individual and in the manner prescribed for the taking of samples from a weigh scale. Also, that the composite sample shall be built up, maintained and tested in accordance with regular provisions for those samples. They provide that the producer may have a duplicate composite sample upon his request. The sample shall be built up and left with the producer, but this producer sample can not be used for official testing unless it meets all other requirements that will provide for a regular official sample. Among these requirements is the provision that samples may be transported only in a manner approved by the Commissioner, they shall only be taken after sufficient agitation, and that the milk so sampled shall be free from churning, excessive foaming and visible fat globules, that they shall be held under suitable refrigeration, and that they shall be protected from tampering.

It is quite obvious from the above regulations that the truck driver must be a licensed weigher and sampler, which in our case he is, both in Connecticut and New York State. In addition, it is quite obvious that this driver must be a substantial individual and have a knowledge of milk not commonly held by an average truck driver. We feel that the driver of these tank trucks picking up milk at the farm should be a man with the knowledge and experience of a fieldman and, secondly, know how to drive a truck. It is necessary for him to assume the responsibility and have the authority to reject any milk which does not meet State standards and/or company standards. This becomes a very serious responsibility when it is a question of accepting or rejecting the day's output of a farm as against the rejection of one or two cans on the dealer's platform. The worry concerning this matter was very serious when this plan was being considered, primarily from a standpoint of off-odors and off-flavors. We have found, however, that this was nowhere near as serious as we thought it might be. Bulk handling and quick cooling together have a beneficial effect on this flavor and odor problem. We have not had to reject milk while these tanks have been in operation. It is undoubtedly true that the producers have used more care, but a few of the producers involved were guilty of many infractions of these standards while their milk was coming to us in cans.

The Question of Sampling

To go back just for a moment to the question of obtaining samples for the purpose of determining butterfat, as a result of tests run by ourselves in cooperation with the State Department of Farms and Markets, we find that on the new type of tanks with the new agitators, that we get proper agitation for the samples within 2½ minutes. On the older types of tanks the practice, whether necessary or not, has been to take five or six spot samples throughout the tank, blend those into one sample from which we take our day's contribution to the 10-day composite. The new type of tank, after 2½ minutes of agitation, are giving us a proper blend so that we need only take one sample from the tank.

Many questions have arisen concerning the carrying of the composite samples through the ten-day period. As a result of several tests carried on, we find that to the best of our knowledge these composites are not harmed in any way by carrying them on a truck every day for the full ten-day period, as long as the refrigeration is ample during the run. We know that in some of the tank operations throughout the country ice trays are being used in the box in which the composites are carried. We have found in our experience that ice alone is not enough, there should be an ice water bath at least part way up the sides of the bottles to give proper and constant refrigeration. We did carry on one test comparing the sam-

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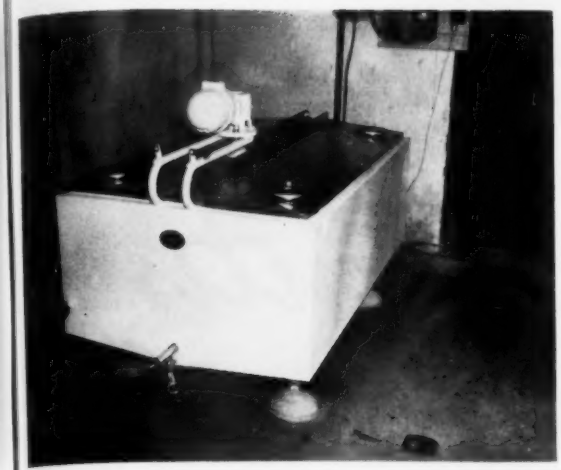

four major equipment manufacturers and a number of lesser firms have farm tanks on the market. The tanks vary in size from 50 to 600 gallons. Most popular sizes run between 150 and 300 gallons. Rectangular tank at left is 300 gallon capacity while circular tank at right is 150 gallon capacity. Trend towards farm tanks appears to be constantly accelerating.

ple left on the farm with the truck sample. In an eleven-month period on eleven different farms we found differences in the samples ranging from zero to 5/100's of 1%, variations which are not worthy of being considered from a practical standpoint.

Many questions have arisen from time to time about the mixing of hot and cold milk when the warm morning's milk is added to the milk from the night before which is already down to about 36°. We have found no difficulty at all in this regard as long as the milk that was already in the tank was thoroughly agitated and the agitator was kept running while the warm milk was being added. In fact, our definite recommendation to producers using the tanks is that they should start the agitator by using the manual control prior to the start of the morning's milking and continue it for at least during the milking and a short time thereafter.

In this regard, I might just comment that there are two types of temperature controls being used at the present time. One is contained within the wall of the tank itself and one is suspended in the body of the milk. We prefer the latter type, although I believe both are working well. The reason we do prefer the one that is suspended in the milk is that we feel it is more sensitive to temperature changes and also because of the adjustability. The adjustable bulb may be set in the top portion of the milk, which obviously is more likely to pick up heat than any other.

Some mention should be made of the measurement of milk, particularly in view of the fact that apparently the various departments of Weights and Measures are interesting themselves in this particular project at the present time. In fact, I understand that it is one of the main items on the agenda for this year's Annual Meeting of the State Directors of Weights and Measures to be held in Washington. Each of these tanks comes to us from the manufacturer supplied with a calibrated stainless steel rod which, in the past, has been round, but which in the future will be rectangular in shape and which will be at least ¾-inch to one-inch wide on the long side for easy and accurate reading. These rods are marked off in sections of 1/16th of an inch and are suspended from a bracket, at one fixed point in the tank.

Tanks Individually Calibrated

After the tanks have been set in place in each milk house, each tank is then carefully and individually calibrated, which means that a pre-determined measure is filled and emptied into the tank and each graduation on the stick marked as to what volume it represents. This is then interpreted into quarts, gallons and pounds, and a duplicate of the chart is left with the producer and the other is kept by the dealer. This obviously is a very important function and one which must be done with extreme care by a responsible individual if future operations are to work out satisfactorily for both the producer and dealer. We have proved to our own satisfaction over a period of time by measuring and/or weighing the complete tank truck that our farm measurements are extremely accurate. We can also tell by testing the full tank truck over a ten-day period as to whether our samples are satisfactory and we find that they are.

These checks, incidentally, are ones that should be made even after we determine that our credits to the producer are proper, for it must be quite obvious to all of you that should collusion arise between the producer and driver that the whole system could be sabotaged if proper checks were not being made.

We fully appreciate that there are many problems that do arise out of this type of operation. We also appreciate that there are many more that could possibly come up if and when this type of bulk handling grows to be more in widespread use than it is at the present time. One of the first of these current problems, as well as a larger potential problem, is the disruption of present hauling routes. It is quite obvious that on a bulk load it takes more cans of milk to make a pay load than it does when hauled in 40-quart cans. Therefore, one tank route would take the place of probably two or more present can routes, which means that there is not going to be enough business for all of the present haulers to remain in operation. Also, this is bound to bring problems as it is only logical for large producers to make use of the tanks before their small volume producing neighbors.

(Please Turn to Page 60)

Let's Talk Accounting

By JIM KLUGER

More on Financial Statements

IN THE JUNE, 1952 ISSUE of the *Review* I discussed in some detail the nature of a balance sheet and statement of operations (profit and loss), what each purports to mean, the make-up and so on. I tried to stress the lack of exactness in these and other accounting statements, and to explain some of the terminology. That terminology or nomenclature, incidentally, is a bugaboo that the profession has been wrestling with for a long time in an attempt to approach the ideals of clarity and unequivocal meaning. Lay readers of financial statements are often justifiably confused by some of our terms. For instance, "value" is used or misused in any number of ways. So is "reserve." And often the nature of various assets and liabilities is not clearly understood, nor are some of the conventions underlying presentation and valuation. In this article I hope to make a little clearer some of our asset presentations and valuations, and the reasons therefor.

I think none of us have much trouble with the concept of "current assets." They're cash, or will be soon in the normal course of operations. Therefore, we attempt to value them at their cash value or cost, whichever is lower. Accounts receivable, for instance, contain some items of doubtful collectibility. Therefore, we try to estimate the non-good portion and show the receivables at realizable amounts. The sums estimated to be uncollectible are periodically charged as an expense in the operating statement. Hence, the "Reserve for Doubtful Accounts" or "Estimated Uncollectibles," as it is better called on a balance sheet, represents the amounts charged to profit and loss on the operating statement over some past period or periods. Aside from cash and receivables, the next most current asset is usually inventory. We want to show this item at cost, unless its realizable value is less than cost. It is true that realizable inventory value is normally greater than cost, but we don't show it at that greater value because then a profit would be anticipated. Here is illustrated a major convention underlying the presentation of financial data in statements: profits are not set up until realized or until a transaction is complete enough to give rise to an enforceable claim, thus assuring realization to a reasonable degree. It might be asked, and it has been, what about supply inventories and prepaid expenses? These are current assets, but they won't be sold and thus turned into cash. True, they won't be. But in the normal operating cycle, such assets will be

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consumed or used up, either as part of the salable product or at least as overhead. The purchase of supplies and the expense prepayments thus release cash which would otherwise have been required in the normal cycle. Hence, they are current assets.

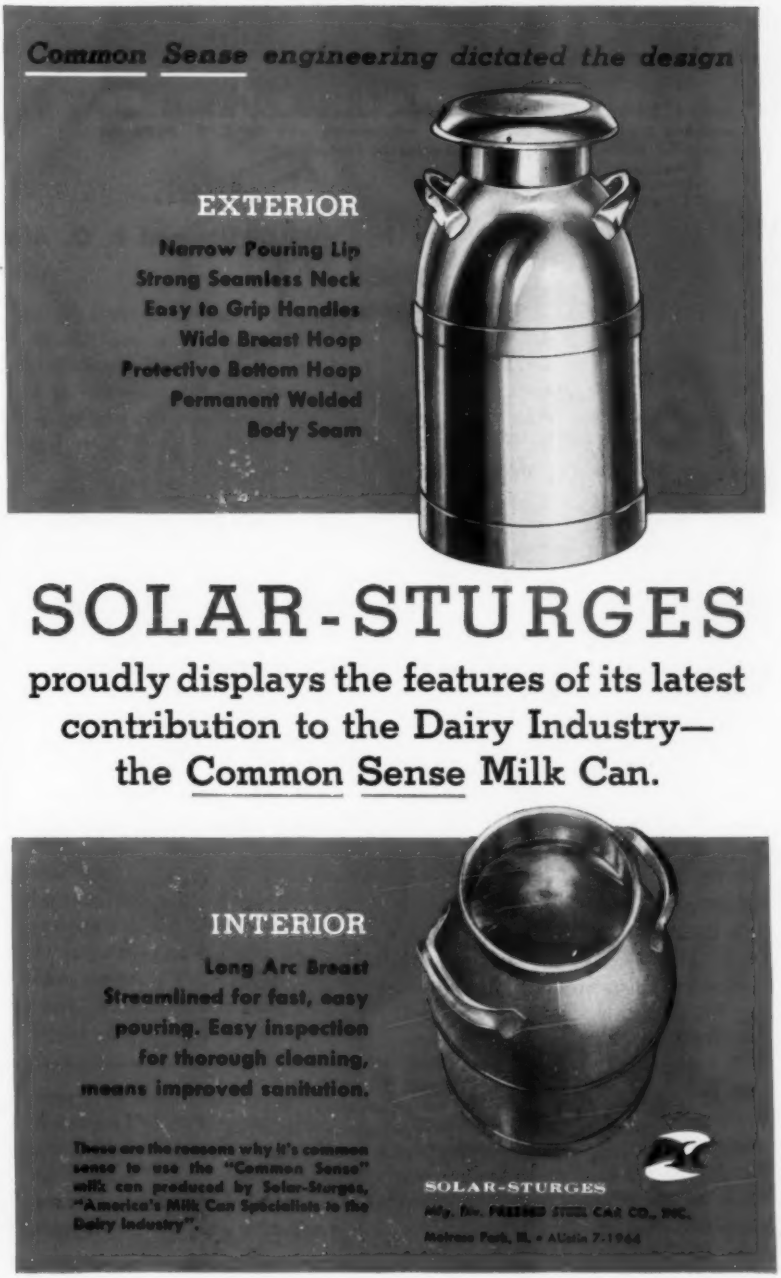
The fixed asset section or "property, plant, and equipment" section consists of long-term assets. Just as are inventories and prepaid expenses, fixed assets (with the exception of land, of course) are used up in operating. The only difference is, they last longer. The "Depreciation Reserve" or, better called, "Depreciation Taken to Date" represents that portion of cost already charged to operations.

The Convention of Cost

We meet here the convention of cost. Realizable value is not important, because we don't expect to sell property, plant and equipment, just use it in operations. A considerable outcry has been raised in recent years for accounting and tax permission to depreciate fixed assets on a replacement cost basis. This is illogical, nice as it would be. We cannot know, really, what replacement costs will be. To anticipate them would mean charging income with non-existent costs. This may sound conservative. But conservatism, while often desirable, should not be used as an excuse to understate either assets or income. If anticipated costs proved excessive at replacement time, any tax savings would have to be made up. In any event, if, even, the estimates turned out to be exact, future periods would escape charges to income, with the result that income for those future periods would be overstated. Thus, what appeared to be a conservative measure might turn out to be anything but.

To carry the theory to its logical conclusion would mean depreciating on a less than cost basis in periods of falling prices, patently a ridiculous proposal. It has been advanced that by not adjusting depreciation charges to replacement costs, insufficient money is provided for the higher cost replacements. The money wouldn't be provided anyway, no matter how high the rates were set. The whole concept of depreciation is to spread the COST of an asset over its useful life. The end desired is to properly measure *income*, not liquidating nor replacement value of the asset, nor future charges to income. An informed management knows it must provide for replacements, but outlandish juggling of accounts is not the way to do it. You must set aside money, cash, not "depreciation reserves." And as for taxes, they are too high. But the place to correct the abuses that give rise to excessive taxation is the polling booth, not the accounting textbooks. (*Note to Editor:* I just had to get in some Republican propaganda. Hope you don't mind.) When a higher cost replacement is purchased, the full cost is deductible from taxable income anyhow, so no one loses on that score.

Current assets and fixed assets are the usual ones. Such others as investments, goodwill, and others are met with, but usually, in an operating company, their import is relatively minor. Permanent investments are valued at cost unless a serious decline in worth has taken place, in which event they are shown at that lesser value. Goodwill is a much abused term, is often meaningless, and in any event comprises a subject worthy of full discussion on its own account.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Dr. Harry L. Wildasin, co-author of this article, takes a reading on fat volume in the modified Babcock test. Dr. Wildasin collaborated with Dr. E. O. Anderson, now with the Mutual Security Administration in Europe.

Improved Babcock Test for Analyzing Homogenized Milk

By H. L. WILDASIN and E. O. ANDERSON

THE BABCOCK TEST (1, 2) is satisfactory for determining the milk fat content of regular raw milk or pasteurized milk, but it is not satisfactory for determining the amount of milk fat in homogenized milk. Fat liberation is made more difficult in homogenized milk because of the decreased particle size of the emulsified fat and because of the increased amount of protein material acting as the fat emulsifier.

The most accurate routine laboratory test for determining the milk fat content of homogenized milk is an ether extraction procedure. This test is available to the dairy industry and control laboratories. Unfortunately, ether extraction procedures are costly both in labor and materials, highly trained technicians are required, and the results are not quickly available for use.

A Babcock test modification reported by Lucas and Trout (8) is not as accurate as ether extraction procedures but has the advantages of speed and low labor and materials cost. More skill is required to produce satisfactory results with this test than with the regular Babcock test and the number of samples that can be analyzed simultaneously is severely limited because of the procedure manipulation required. Numerous other modifications of the Babcock test have been reviewed by several writers (4, 8, 9). These methods give inconsistent results because some of the milk fat is not liberated or because one or more of the ingredients are soluble in the liberated fat, or else they require artisan techniques.

In the Babcock test, fat liberation is accomplished by partial hydrolysis of milk proteins, destruction of the fat emulsion, dispersal of proteins and protein fragments, and melting and coalescing of the milk fat. When the carboxyl groups of proteins are suppressed by the addition of sulfuric acid, the proteins assume a corresponding increase in positive charge. It is when the proteins are in this cationic form that high dilutions of cationic detergents cause proteins to be made more soluble, according to Kuhn and Bielig (7). This investigation deals with the detergent action of a cationic surface-active quaternary ammonium compound acting as a milk fat de-emulsifier. A previous publication (6) from this institution used this principle advantageously in analyzing chocolate milk for milk fat content. A more detailed report of this investigation was reported in a station bulletin (10).

The authors wish to express their appreciation to Leonard R. Mattick, graduate assistant, and to Josephine Emory, student, for their technical assistance in this project.

Procedures

Standard Babcock equipment (1) and a mechanical shaker were used and the test bottles were certified for accuracy by the New Haven Agricultural Experimental Station.

Comparative studies were made using homogenized milk marketed by commercial dairy plants in Connecticut and homogenized milk containing various quantities of fat which were prepared in the University of Connecticut milk plant. Comparative studies were made using the Dietert ether extraction procedure (3), the Lucas and Trout method (8) of analysis for homogenized milk, and a modification of the Babcock test employing a quaternary ammonium compound, which will hereafter be referred to as the Connecticut modification. Test bottle scale readings were made to the nearest 0.05 per cent fat and averaged to the nearest 0.01 per cent fat.

The Connecticut modification is that given in AOAC (1) for testing whole milk except that 9 grams of 50 per cent BTC* was added to each

* Alkyl dimethyl benzyl ammonium chloride, manufactured by Onyx Oil and Chemical Company.

XUM

liter of C.P. sulfuric acid having a specific gravity of 1.820 at 68° F., and the acid was used at room temperature (70° F.). All of the acid used in the Connecticut test was sulfuric acid containing BTC unless specifically indicated otherwise. A meniscus remover was used where indicated and is a part of the recommended procedure.

Results

It was the intent of these studies to define the sensitivity of some of the possible variables in the Connecticut modifications as they affect the reliability of the recommended procedure. The criteria of a satisfactory test were that the fat in the column be amber translucent and free from undissolved curd or charred curd, that the acid layer be dark brown to black with no cloudiness or undissolved particles, and that the results be within one-tenth of one per cent fat of the mean value obtained when the analyses were free from undissolved or charred curd.

Concentration of Sulfuric Acid

Results presented in Table 1 indicate that undiluted sulfuric acid should never be used in the Connecticut modification because charring results unless 16 mls. or less of acid is used. When using acid with a specific gravity between 1.800 and 1.830, between 14 mls. and 20 mls. of acid may be used satisfactorily.

When the temperature of the milk is not tempered to 60° F., one can still expect satisfactory results with the Connecticut modification. If the milk in the test bottles is between 32° F. and 110° F., the operator of the test may use between 15 mls. and 21 mls. of 1.820 specific gravity acid and obtain satisfactory results (Table 2).

Table 3 indicates that the temperature of 1.820 specific gravity acid when used has very little effect on the amount of acid which may be used.

When 18 mls. of 1.820 specific gravity acid is used, one may add as little as 3 mls. of 50 per cent BTC per liter of acid or as much as 18 mls. of detergent per liter of acid and obtain satisfactory results.

Oftentimes the operator of a test will deviate from the recommended procedure in order to analyze several samples simultaneously. Excellent re-

TABLE 1

Effect of sulfuric acid concentration on the amount of acid which gives satisfactory tests.

Specific gravity of acid	Mls. acid required	Specific gravity of acid	Mls. acid required
1.600	.....	1.820	12-25
1.700	20-25	1.825	12-21
1.800	14-25	1.830	11-20
1.810	12-25	1.836	10-16

TABLE 2

Effect of milk temperature on the amount of acid which gives satisfactory tests.

Milk temperature °F.	32	50	70	90	110
Mls. acid required	15-25	14-25	13-25	10-25	8-21

TABLE 3

Effect of acid temperature on the amount of acid which gives satisfactory tests.

Acid temperature °F.	50	60	70	80
Mls. acid required	13-25	13-25	12-25	12-25

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TABLE 4

Comparison of Dietert, the Lucas and Trout, and the Connecticut methods of analyzing commercial homogenized milk.

Sample No.	Dietert % fat[1]	Lucas and Trout % fat[2]	Connecticut without M R % fat[2]	Connecticut with M R % fat[2]	Deviation from Dietert: Lucas and Trout % fat	Deviation from Dietert: Connecticut without M R % fat	Deviation from Dietert: Connecticut with M R % fat
1	3.64	3.64	3.75	3.63	.....	+0.11	−0.01
2	3.73	3.70	3.85	3.70	−0.03	+0.12	−0.03
3	3.88	3.98	4.00	3.85	+0.10	+0.12	−0.03
4	4.03	4.14	4.18	4.03	+0.11	+0.15	.....
5	3.82	3.85	3.93	3.74	+0.03	+0.11	−0.08
6	3.69	3.64	3.73	3.60	−0.05	+0.04	−0.09
7	3.56	3.60	3.70	3.51	+0.04	+0.14	−0.05
8	3.62	3.65	3.71	3.54	+0.03	+0.09	−0.08
9	3.73	3.85	3.90	3.76	+0.12	+0.17	+0.03
10	3.69	3.65	3.71	3.60	−0.04	+0.02	−0.09
11*	0.23	0.25	0.30	0.10	+0.02	+0.07	−0.13
12*	1.19	1.05	1.15	1.00	−0.14	−0.04	−0.19
13*	2.06	2.04	2.20	2.05	−0.02	+0.14	−0.01
14*	2.84	2.85	3.00	2.84	+0.01	+0.16	.....
15*	3.93	4.00	4.10	3.95	+0.07	+0.17	+0.02
16*	4.61	4.69	4.78	4.65	+0.08	+0.17	+0.04
Standard deviation of differences					0.06	0.06	0.06
Standard error of mean differences					0.02	0.02	0.02
Mean difference					+0.02	+0.11	−0.04
Probability					0.2	0.01	0.02

M R Meniscus remover
[1] Average of two analyses
[2] Average of four analyses
*Prepared in pilot plant

sults are possible with any of the following treatments before centrifugation is started:

1. Mix the test bottle contents thoroughly for 15 seconds to 20 minutes,

2. Mix the contents thoroughly for one minute and allow to remain at 75° F. to 130° F. for as long as 20 minutes, or

3. Allow the bottle contents to stand at 75° F. to 130° F. for as long as 20 minutes before mixing.

Milk test analyses were compared using zero (first period omitted), five, and 20 minutes of centrifugation during the first period of centrifugation. In all tests the second period of centrifugation was two minutes and the third period of centrifugation was one minute. Statistical analysis of 34 test comparisons indicated that zero minutes gave a mean difference of +0.04 per cent fat, while 20 minutes gave a mean difference of −0.01 per cent fat when compared to a five minute period of centrifuging. These results were obtained while maintaining the water bath temperature at 135° F. +1° F. and while using a diffused column of light for viewing the volume of fat in the milk test bottle.

Comparative Analyses

Comparisons of fat test results using the Lucas and Trout, the Dietert, and the Connecticut methods on commercial homogenized milks are presented in Table 4. The Lucas and Trout method results did not differ significantly from the Dietert method of analysis results even though the results from the first method showed a mean difference of +0.02 per cent fat. The Connecticut method results did differ significantly from the Dietert method results, having a mean difference of +0.11 per cent fat without the use of glymol and a mean difference of −0.04 per cent fat with the use of glymol. Glymol eliminates the top meniscus of the fat column and is recommended by the ADSA committee (5). The standard deviation of differences was 0.06 per cent fat and the standard error of mean differences was 0.02 per cent fat in both the Lucas and Trout and Connecticut methods when compared with an ether extraction procedure (Table 4).

Discussion

Results presented indicate that the specific gravity, temperature, and amount of sulfuric acid used in the Connecticut test for homogenized milk can be varied considerably without decreasing the probability of obtaining accurate milk fat analyses. The operator should standardize his sulfuric acid to a specific gravity of 1.82 with the use of a hydrometer and when a hydrometer is not available or in use, the operator should dilute his concentrated acid by adding 900 mls. of acid to 100 mls. of water in a pyrex glass container. This will insure that the sulfuric acid has a specific gravity of less than 1.83 without the danger of reducing the specific gravity to 1.80. After cooling the diluted sulfuric acid, nine mls. of 50 per cent BTC is added by using a graduated cylinder for measurement and then rinsing the cylinder with acid. This acid-detergent mixture is satisfactory for use for at least two weeks. When the acid-detergent mixture develops a deep amber color it should be discarded.

Milk temperatures in the test bottles and the temperature of the acid when added to the milk need not be as carefully controlled as the temperature of milk and sulfuric acid in the regular Babcock test on unhomogenized milk, or in the Lucas and Trout test on homogenized milk. This fact

ANDERSON AND WILDASIN

The authors of this article on a modified Babcock Test for homogenized milk are both on the staff of the Department of Animal Industries at the University of Connecticut.

E. O. Anderson, better known as "Andy" has made a habit of getting the Connecticut judging team up front in student judging contests. He is on leave from the University at present, in order to participate in the work of the Mutual Security Administration as a Dairy Specialist. He is working in France and Western Germany.

Harry L. Wildasin is a graduate of Pennsylvania State College. He received his B.S. degree in 1943 and his Ph.D. in 1949. He has been at Connecticut since 1949 but left on June 16 to take up a new job as Director of Quality Control for the Whiting Milk Company in Boston.

is considered extremely advantageous if one is using the method (5) recommended by the ADSA committee organized "to standardize the Babcock test for milk fat to agree with the Mojonnier method" where the milk is measured at about 100° F.

Recommended Procedure*

1. Use standard Babcock test equipment and glassware as recommended by AOAC (1).

2. Use an acid hydrometer to standardize the concentrated sulfuric acid to 1.82 (1.80-1.83) specific gravity at 68° F. If acid hydrometer is not available for use, add 900 mls. of concentrated acid to 100 mls. of water and cool or purchase standardized acid.

3. To each liter of sulfuric acid, add nine grams or nine mls. of 50 per cent "BTC" (alkyl dimethyl benzyl ammonium chloride sold by Onyx Oil and Chemical Company). If "BTC" is measured, the graduated cylinder should be rinsed with acid. This solution is stable for at least two weeks and can be used until it develops a deep amber color.

4. Measure 18.0 grams of representative homogenized milk into the milk test bottle in the usual manner.

5. Add 18 mls. of acid down the side of the neck of the test bottle, rinsing all traces of milk into the bulb. Milk and acid may be at the most convenient temperature.

6. Mix the acid and milk completely.

7. Centrifuge five minutes in a centrifuge heated to 130° F. to 140° F.

8. Add water at 140° F. or above until bulb of bottle is nearly filled.

9. Centrifuge two minutes.

10. Add hot water again until liquid level approaches top of graduation of scale.

11. Centrifuge one minute.

12. Place the test bottle in a 135° F. to 140° F. water bath which completely submerges the portion of the bottle containing the fat.

13. Allow test bottles to remain in water bath for at least five minutes.

14. Immediately before reading the volume of milk fat, add a few drops of meniscus remover (glymol) down the inside of the milk test bottle.

15. Read the results to the nearest one-tenth of one per cent fat.

*For more detailed procedure see AOAC (1) except for steps 2, 3, and 14.

Conclusions

A modified Babcock test for determining the fat content of homogenized milk is presented. The procedure, equipment, and reagents used in this test are identical to those now in use in the dairy industry for the Babcock test except that a small amount of detergent is added to the sulfuric acid before use, and a meniscus remover is used in reading the results.

The results of the Connecticut modification for analyzing homogenized milk compare favorably with an ether extraction procedure being on the average only 0.04 per cent fat lower than the results obtained by the Dietert method.

The Connecticut modification has the advantages of speed, and low labor and materials cost associated with the Babcock test. In addition, very little skill is required to produce satisfactory results with this test. The operator of this test can realize high efficiency in analyzing homogenized milk since the number of simultaneous

(Please Turn to Page 81)

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FIVE YEARS EXPERIENCE WITH BULK HANDLING

(Continued from Page 52)

This brings up the question of actually getting transportation for the milk for the small producer, as well as the question of increased rates which it is very possible he will have to bear if his large neighbors start shipping in bulk. Certainly, we have to admit from an economic standpoint that at the present time the large producers are bearing part of the cost of trucking the small producer's milk to market as, logically, costs are less per can for the trucker picking up ten cans or more at one stop as against making a stop to pick up two cans. The reverse of this is also true as we well know in sales – the large customers actually have a smaller delivery cost per unit than do the small corner groceries. The installation of tanks emphasizes this fact and brings it clearly out into the open. Some way this is going to have to be met.

Individual Route Basis

The installation of bulk handling routes must be done on an individual route basis and there are very few generalities that can be applied in answering the problems of the installation of one individual route. Current and local circumstances and conditions must be taken into consideration and where possible must be used to advantage. For example, in our present installation of a tank route in the Connecticut territory, one tank is to take the place of two can routes, but the total changeover actually affects four present routes. Problems of the individual producers and truckers must be worked out in detail so that there is as little disruption as possible.

I might comment at this point that the present route that is being developed will pick up all of the Grade A milk going into our Hartford plant, together with as much Grade B milk as is needed to make a pay load. This Grade A pick-up will eliminate the necessity of having duplicate receiving equipment in our plant, which is called for by present regulations.

There are many factors that must be taken into consideration in establishing a new tank route. A few of these are–

Average size of producer,
Number of producers,
Mileage,
Types of roads,
Equipment necessary on both trucks and farms,
Size of the total load,
Number of farms possible in the short season.

One other problem that presents itself is the possibility of raiding of supply by another cooperative or a competing dealer. Obviously, the temptation to do this will be great in some areas and many will realize the fact that the first operation to go into the tank system will probably pick up the largest producers. This possible raiding poses a very serious threat to the stability of a supply area and is a thing to be guarded against.

One other serious problem concerning policy is the jockeying for economic position in some markets between producers and dealers for the available savings that are attendant with this bulk handling system. This problem is a very real one and can operate to hold up development of this system substantially. We do not believe that milk plants will make any substantial savings through this operation until all 40-quart cans are eliminated in the individual plant. Until that time arrives we will still have to continue the use of our can washers, power, and receiving deck crews. There will be some plant savings, however, in case it is currently necessary to cool incoming milk prior to its pasteurization, and also there will be some saving in out-of-pocket expense, particularly where the receiving of milk is done presently on an overtime basis.

The producer savings, however, starts almost immediately upon the installation of the tank equipment. This savings in volume, butterfat, and can expense starts immediately, and we are very much in hopes that in most cases there will be the possibility of reducing hauling rates promptly.

Our firm conviction in view of all these things is that there are savings in this bulk handling method for both segments of the industry, but we do feel very definitely that the saving by each segment belongs to that segment. We believe that if this principle is adhered to that the public, as well as the industry, will benefit by this bulk handling method and that the conversion from cans to tank will take place much more rapidly than it otherwise would.

FARM PASTEURIZER-DISTRIBUTOR

(Continued from Page 17)

trolled but sales difficulties were created. Each customer had to be told that there was less than a quart of milk in the bottles. Competitors seized upon that fact as a sales weapon. While the amount of milk involved was almost negligible, nevertheless, there was not a full quart. Consequently a special bottle had to be made with the milk handler paying the cost of the mold.

The Special Bottle

The new bottle has the same appearance as a regular quart bottle. Indeed, one cannot tell the difference except when a regular bottle and the special bottle are placed side by side. The only real difference is the slightly larger size of the special bottle. This bottle has a mark near the top. The purpose of the mark is to indicate the point to which the bottle should be filled in order to get a quart. If filled to this point, the bottle will hold the proper amount of milk and still allow room for expansion without having a bad effect on the cap.

The pasteurizer is a rectangular steel box 24" x 36" x 15". It is mounted on steel pipe legs and stands about three feet off the floor. It is placed adjacent to the cooler and is connected to the cooler by two pipe lines which provide for the circulation of cooling water after the pasteurizing has been completed.

The pasteurizer will hold sixty quarts of milk in square bottles. The bottles are placed in the pasteurizer so that the milk is completely covered with water. The water is then heated by means of what is called an immersion heater. The heater requires 220 volts and uses a three-pronged electric stove type connection. It takes about 30 minutes for the water to get up to pasteurizing temperature. The holding time is 30 minutes at 143 degrees. When the end of the holding period is reached cooling starts. Twenty minutes is required to bring the temperature of the milk down to 40 degrees.

Pasteurizer Is Automatic

The pasteurizer is completely automatic. Once the bottles are in the pasteurizer and the controls set the operator can go about whatever business he has at hand and not worry about the process. An automatic timer goes into action when the temperature reaches pasteurization point. When

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the holding period is terminated an automatic magnetic water valve opens and the cooling starts. The cooling water from the can cooler is circulated in the pasteurizer as the cooling agent when the pasteurization has been completed. About 80 minutes are required for the entire operation.

Controls are set up in the pasteurizer by means of two bottles that are filled with water and contain the recording thermometer and indicating thermometer. A record of the temperature is maintained on the temperature recording chart. According to Arthur Libby who runs the dairy end of Windsway Farms for owner George Lyons, raw counts have been running in the neighborhood of 30,000; after pasteurization counts have been consistently less than 3000. These tests are made by the State inspector.

Bottle Washing Done by Hand

Bottle washing is done by hand in the washing sink that is provided in the milk house. The State Department of Farms and Markets is satisfied.

Considerable credit should go to Connecticut Department of Farms and Markets officials for their willingness to work along with Windsway Farms on this project. The equipment is manufactured primarily for home use, not for use in a commercial venture. Consequently it was necessary to get Farms and Markets approval before milk could be placed on the market. Many departments, short-handed, are inclined to look upon this type of small operation as something of a bother. But the Connecticut people gave the project every consideration and worked with George Lyons, owner of Windsway Farms, until the bugs were licked and a satisfactory product was produced.

Arthur Libby, who does the pasteurizing and handles the route, says that it takes him about three hours for a complete operation. That includes washing the bottles, pasteurizing the milk, and cleaning up. The route, which involves 130 quarts and covers a distance of 30 miles, requires two and a half hours. Mr. Libby says that his customers like the idea of milk fresh from the farm as well as the rich quality of the Guernsey milk. Although that factor of "farm fresh" is not particularly important in this day of modern refrigeration and rapid transport, the idea of "fresh from the farm" was emphasized so strongly in the past years that it still has a certain magic about it.

The real significance in this type of farmer-distributor operation is not so much *how it is done* as it is that *it can be done*. This type of an undertaking offers the little guy an opportunity. For a small amount of capital, he can set himself up in business. It gives him the opportunity to get the toe-hold from which so many of our healthy business experiences have sprung. Whether a new crop of small independent milk distributors would be a good thing for the industry is a matter of opinion. Undoubtedly a good many people could be found to argue one way and a good many people could be found to argue another. It does not make a great deal of difference either way. What does matter is the fact that the way is open for the small farmer-distributor or the small handler to get back into business. Whether or not they will is of the same stuff that makes a horse race.

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WASHINGTON REPORTER

By HAROLD E. CHRISTIE

Defense Production Act to Stay

A new Congress will have the responsibility of killing outright the controls machinery of the Defense Production Act if the recommendations made to the Senate late in May by the Senate Committee on Banking and Currency are upheld in the floor debate.

In its report to the Senate the Committee recommended a certain amount of whittling to be accomplished in bringing out an extension to the measure; Wage Stabilization Board's members will be reduced to one group—public members only—without specific numbers mentioned, and relieving it of its authority to settle labor disputes.

Price controls fared somewhat better, and one score was chalked up for the Administration—the fats and oil embargo was repealed. Committee action restored provisions of the Second War Powers Act, leaving restriction on dairy products and other fats and oils to the discretion of the President.

In asking the OPS to decontrol individual items as quickly as possible, the moves made by the Senate committee to accomplish this include the clarification of the Capehart amendment—*its provisions would then be applicable to manufacturers only.*

To further clarify the Herlong amendment, the Committee recommended that its provisions apply during the same period as the Capehart and not from the date of its enactment last July 31, 1951. Furthermore, regulations issued before as well as after that date will have to conform with the Herlong provisions.

A vote will be had in the Senate before the middle of the month according to current plans.

On the House side hearings were completed on extension of the Defense Production Act and the whittling was somewhat more extensive. The way is now clearing for a final passage of the extension with the only perplexing question now facing the legislators—when the final vote will be taken and will passage be effected before or after one or both conventions. For although the measure was scheduled to expire June 30 last year, the extension was not effected until July 31, 1951. A similar situation could occur at this point.

Retail Food Prices by Cities

In its annual report on retail food prices gleaned for 56 cities, the Bureau of Labor Statistics of the Department of Labor reports that fresh milk delivered to homes or institutions sold for an average price of 23.1 cents per quart as compared with the national average price of fresh milk sold through grocery stores at 21.7 cents per quart.

Lowest three cities in which the survey was conducted revealed that Minneapolis ranked first with 18.2 cents per quart for delivered milk; St. Paul second at 18.8 and Cedar Rapids, Iowa at 19.8 was third. For milk sold through grocery stores St. Paul was first with 16.2, Minneapolis next with 17.6 and Cedar Rapids again third at 18.9.

Top prices for delivered and grocery store milk were registered in Savannah, Georgia at 27.0 for delivered and 27.6 for grocery; Jacksonville, Fla. 26.8 and 26.4; and Birmingham, Ala., 25.6 and 25.0.

Higher prices prevailed for grocery store sales in the following of the 56 cities surveyed: Winston-Salem, N. C., Scranton, Pa., Rochester, N. Y., Richmond, Va., New Haven, Conn., Little Rock, Ark., Jackson, Miss., Dallas, Tex., Charleston, S. C., Bridgeport, Conn., Atlanta, Ga., and Baltimore, Md. Grocery store milk sold for prices ranging from one-tenth of a cent to as high as nearly two cents per quart more than for delivered milk.

Food Production for Year at Record Output

If the Department of Agriculture's Bureau of Agricultural Economics' guess is good, this year's food production record promises to set a new high. Military needs won't be much

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greater than last year and exports too will be off some, but civilian per capita consumption will exceed the 1951 record by a slight margin.

A further note of encouragement to all consumers is the word about "stable food prices for the balance of '52."

Reduction in the cow population plus a lower rate of milk given per cow resulted in a slightly lower output for the first four months of this year as compared with production during the same period last year.

Though milk production totals for the year may not average as much as last year, the consumption rate per person, for fluid milk and cream will rise slightly over that of 1951. As a matter of interest the BAE reports that the per capita milk output is expected to be the smallest in 28 years for which records are available.

Reason for the apparently paradoxical situation is that much more of the milk supply is now sold as fluid milk.

While sufficient supplies of milk will be available during the balance of this year to meet all domestic demands for fluid milk and cream, prices will rise somewhat above those currently prevailing.

Milk Production During 1951 Summarized

Total farm production of milk for 1951 is reported at 115.6 billion pounds, or 1% below 1950 with milk cows on farms—21.7 million head—recorded at the smallest annual number since 1929. But the average milk production per cow set a new high of 5,326 pounds.

Milk used for household consumption and calves feeding totaled 17.6 billion pounds with the balance of 98.0 billion pounds sold commercially for other products. Also setting a new high was the 74.6 billion pounds of whole milk that farmers sold to dairy plants; while cream sold to plants, retail sales by farmers and farm-churned butter were the smallest in the 28 years of record.

Output of factory products absorbed 45% of the milk produced, farm uses 15% and among the other uses, non-farm fluid consumption chiefly, 40%. Although 3,648 thousand farms had milk cows and 1,097 thousand sold whole milk, 862 thousand cream, only 601 thousand were classified as "dairy" farms by the Department of Agriculture.

DISA's Fourth Bulletin

Dairy Industries Supply Association has just published its fourth issue of "Dairy Technology Today." The informative bulletin, issued only occasionally, is for and about the Dairy Technology Clubs and Societies of the United States and is issued by Dairy Industries Supply Association at 1108 16th St. N.W., Washington 6, D. C. Copies are available to those who request them.

Arnall Cites Current Price Pressures

That more and more pressures "for increase in ceiling prices" are being brought to bear upon the Office of Price Stabilization was graphically portrayed by OPS boss Ellis Arnall in late May to the House Banking and Currency Committee, amplifying his statement that unless price controls were continued, prices would spiral upward.

Among the 79 commodity areas in which these pressures are being stressed was the fluid milk industry of the Dairy Branch of the Food and

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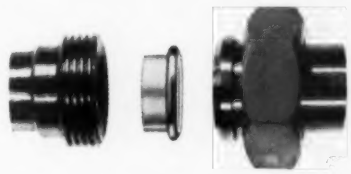

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Restaurant Division, OPS. These requests, Mr. Arnall indicated, were "conclusive evidence of the extent to which prices are pressing ceilings."

The list, however, represents only some of the principal items for which ceiling price increases have recently been requested. Higher ceilings were authorized in a few cases that met the OPS' established standards, though many others have been and will be denied.

Food and Drug Administration Reports

Adulteration and misbranding of non-fat dry milk solids was the charge made by the FDA against a dairy company in Iowa. The charge revealed that the firm had labelled its product in part "roller process. Non-fat dry milk solids," but had violated Sec. 402 (b) (2) of the Food and Drug Act by substituting a product made from neutralized sour skim milk and at the same time had violated section 403 (a) regarding labelling of the proper content.

Firm and defendants pleaded guilty to the charge and were fined a total of $400 and costs against the corporation, not the individual.

Tax Amortization Certificates Distribution

According to the Defense Production Administration, more certificates of necessity have been issued to Ohio industries as of March 15, 1952, than to any other State. And of the more than 8,000 certificates issued for an approved amount of investment totaling more than $16 billion, over 800 went to Ohio firms involving investments of more than $972,000,000. California was second with 743 firms receiving $592,000,000 and Pennsylvania's 684 firms got a total of $1,470,-902,000.

On a sectional basis the states in the East North Central region had 2,423 certificates with a dollar value of proposed investments of $3,060,-114,000.

As of May 1, 1953, 20,006 applications were filed for proposed investments totaling approximately $30,-479,596,000.

Retail Food Prices Higher as Milk Prices Decline

Average food prices at retail levels were 0.1% higher in mid-May than at the close of April, but large decreases occurred in dairy and poultry products. Milk prices decreased seasonally.

Fresh milk delivered, the BLS reported, averaged 23.5 cents per quart

"DON'T MIND HER. THIS IS HER ROOM DURING THE WINTER."

on May 15 compared with fresh milk sold in grocery stores at 22.0 cents per quart. Monthly change for fresh delivered milk reflected a drop of 1.7% and grocery prices declined 2.2%. The change from April 28 to May 15 for delivered milk averaged 1.7 while grocery sold milk was averaging 1.8 less than the earlier report.

Third Quarter Material Allotments

Improvement in controls of materials program has contributed materially to the higher allotments of metals for third quarter usages, the NPA announced late in May. Aluminum for milk bottle crates has been set at 45% of base period requirements for the new quarter.

While many materials will continue in tight supply, the dairy industry will probably be adequately provided with crate and bottle closures materials for the balance of this year. However, a survey of machinery and equipment needs is still recommended as a possible safeguard against any future tight control of materials that could cut deeply into these supplies and either have them withheld from the producer because the manufacturer's inventories were too low, or there just wouldn't be replacement material for the manufacturer to obtain adequate controlled materials for future manufactures.

●

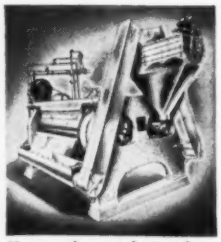
CANCO NAMES D. B. CRAVER

The appointment of D. B. Craver as general manager of sales for American Can Company has been announced by T. E. Alwyn, vice-president in charge of sales.

Mr. Craver, who has been associated with the can-making firm for more than 20 years, previously had served in Chicago as manager of sales for the company's central division. His new appointment fills a vacancy created last year by Mr. Alwyn's election as vice-president.

Starting with the company as a clerk in Baltimore, Mr. Craver subsequently was named district sales manager in Philadelphia and later held a similar position for the northern New Jersey area. In 1947 he was appointed a sales division manager in Chicago.

Better DRY MILK



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F. S. KEFAUVER

WILHOITE SUCCEEDED BY KEFAUVER IN SOUTHERN DAIRIES

L. J. Wilhoite has been succeeded by F. S. Kefauver as zone manager for Southern Dairies, Inc., manufacturer of Sealtest dairy products. In his new position, Mr. Kefauver will direct operations of the concern in the Tennessee area, including manufacturing plants at Chattanooga and Knoxville.

Mr. Wilhoite will continue in his position as a director of the dairy concern as well as in his other business and civic activities which include chairmanship of the Electric Power Board of Chattanooga.

Mr. Kefauver has been connected with the dairy business since 1927 at which time he was associated with Britcherd Dairy of Norfolk. Since joining Southern Dairies in 1935 he has spent eight years in Tennessee as assistant plant manager of the concern's Knoxville operation. For the past four years he has held the position of Assistant General Sales Manager of Southern Dairies at the headquarters office in Washington, D. C.

Active in civic affairs in Washington, Mr. Kefauver is a member of that city's Sales Executive Club, is a 32nd degree Mason and a Shriner. He is married and has two children, his wife being the former Ada Maher Machamer, of Knoxville.

Mr. Kefauver will maintain his zone offices at Knoxville.

JOHN McKILLOP

KLENZADE NAMES McKILLOP

John McKillop, for many years Chicago office manager of Klenzade Products, Inc., Products Division, has recently been promoted as National Accounts representative, with headquarters at Chicago. Mr. McKillop's long years of service with Klenzade and his broad background of experience in sanitation work ably fit him for his new duties. He will act as assistant to Mr. W. J. Dixon, vice-president of Klenzade in charge of the National Accounts Division.

...Have Your Body Builder "DOLE-PLATE" Your Trucks NOW!

No matter what temperature extremes this summer brings, your trucks equipped with DOLE Holdover Truck Plates will maintain your payload at specified temperature, fresh and unspoiled. What's more, they'll keep your trucks rolling day after day all season for there's no such thing as breakdown on the road with DOLE refrigeration.

It's not too late to equip your fleet with DOLE plates. Do it now — for a carefree summer.

Ask for Truck Plate Literature

DOLE REFRIGERATING COMPANY

5932 N. Pulaski Rd., Chicago 30, Ill. 103 Park Ave., New York 17, N. Y.

In Canada: Dole Refrigerating Products Limited, 44 Elgin Street, Brantford, Ontario.

GRACE LINE SPOTLIGHTS SEALRIGHT CONTEST

Sealright's $26,000 Snapshot Contest was featured in the world's most valuable display space, launching a nation-wide series of windows planned to dramatize the contest in cities and towns throughout the United States.

The big Grace Line window at the Fifth Avenue entrance to Rockefeller Center spotlighted the contest for hundreds of thousands of New Yorkers and visitors with the explanatory sign:

"The Sealright Company, Fulton, New York, manufacturers of ice cream containers and sanitary closures for milk bottles, believes the best way to stimulate their own business is to promote the sale of their customers' products, milk and ice cream. During May, June and July, Sealright offers $26,000 in prizes to consumers of these products who submit interesting snapshots.

"If you want to win one of the two Carribbean cruises or one of 150 other valuable prizes featured in this contest advertised in the *Saturday Evening Post* and *Collier's*, ask your milkman for the snapshot entry blanks or get one at your neighborhood ice cream fountain or grocery store."

Built around a model of the luxury ship Santa Paula, the window gave contest details, listed the Sealright ice cream and milk companies cooperating, displayed Platt matched cruise luggage and pictured Westinghouse Cabinet Roasters and Ansco cameras in action. The latter companies are supplying their products for prizes. Top prizes, of course, are two luxury Caribbean cruises via Grace Lines.

National advertising by Sealright includes full pages in the *Saturday Evening Post* and *Collier's*. Dairies and ice cream manufacturers cooperating will tie-in with the contest in local markets with advertising under their own names.

BUHL MANUFACTURING COMPANY CHANGES HANDS

Control of Buhl Manufacturing Company, one of Detroit's oldest manufacturing companies, changed hands when Penn-Ohio Steel Corporation, of Birdsboro, Pennsylvania acquired for cash all of the Cumulative Preferred Stock and the majority of the Common Stock, it was announced by Joseph B. Montgomery, Jr., President of Penn-Ohio.

Penn-Ohio Steel is an important factor in the automotive industry through ownership of Montgomery Steel Products Company, Van Auken, Inc. and Helms Industrial Development Co., Inc., manufacturers of "Van Auken" and "Helms" automobile grille and fender guards and other accessories. Operations of these companies will be coordinated with those of Buhl. Penn-Ohio is planning to expand the activities of Buhl through acquisition of other products in the automotive field, and also is negotiating for the purchase of another steel company, Mr. Montgomery added.

Buhl Manufacturing Company was established in 1888 by the Buhl interests in Detroit, and has been controlled by them since that time.

The company manufactures and sells a complete line of dairy metalware products such as milk cans, ice cream and cheese cans, strainers, pails and other allied products for the dairy industry. The company distributes its dairy metalware items almost entirely through the country's most select jobbing outlets, this having been its policy since the inception of the concern and this policy is to be rigidly adhered to in the future. Stocks of Buhl products are and will continue to be available in all important cities through jobber warehouses.

Buhl also manufactures a broad line of products for both the automotive and aircraft industries which work will be continued with appreciably expanded facilities. The plant located at 2730 Scotten Avenue, Detroit, has in excess of 200,000 square feet of floor space, of which a substantial part is now devoted to defense work.

The operation of the expanded Buhl Company will remain unchanged under the direction of Harry S. Fikenstaedt, president; Edward F. Rickelman, vice-president; and Howard E. Ryan, treasurer, who continue in their present offices and as directors, Joe S. Hall continues as Sales Manager of the Milk Can Division.

Samuel E. Magid, Chairman of Penn-Ohio, succeeds Lawrence D. Buhl as Chairman of the Board, and Joseph Montgomery, Charles D. Runyan, President of the Trust Company of North America, New York, and Clermont Cartwright, Chairman of the Board of Hill, Thompson & Company, Inc., New York, have been elected to the board.

Better Dairies Everywhere Are Switching to
HAYNES SNAP-TITE NEOPRENE GASKETS
for Sanitary Fittings
Order through your favorite jobber.

CONVENTIONS AND CONFERENCES

West Virginia Dairy Products Association—Annual convention, August 3-5, at the Greenbrier Hotel, White Sulphur Springs, W. Va. Secretary, Prof. S. J. Weese, West Virginia University, Morgantown.

Western Packaging & Materials Handling Exposition—August 12-14, Shrine Convention Hall, Los Angeles, Calif.

National Automatic Merchandising Association—Annual convention to be held September 14-17, in Chicago. General Chairman, E. H. Fox, Austin Packing Company, Inc., Baltimore, Md.

International Association of Milk & Food Sanitarians, Inc.—Thirty-ninth Annual Convention, September 1-20, at the Nicolett Hotel, Minneapolis, Minn. Make reservations directly with convention hotel.

International Association of Ice Cream Manufacturers—48th Annual Convention, September 21-24, Chicago, Ill. Robert C. Hibben, 1105 Barr Bldg., Washington, D. C., Executive Secretary.

Milk Industry Foundation—45th annual convention, September 24-26, Chicago, Ill. Col. B. F. Castle, 1625 Eye St., N.W., Washington 6, D. C., Executive Director.

Dairy Industries Supply Association—18th Dairy Industries Exposition, September 21-27, Navy Pier, Chicago, Ill. Robert Everett, 1108 - 16th St., N.W., Washington, D. C., Executive Vice-President.

National Dairy Cattle Congress—Will be held September 27 through October 4, at Waterloo, Iowa. E. S. Estel, Secretary.

New York State Association of Milk Sanitarians—Annual meeting, October 1, 2, and 3, at the Hotel New Yorker, New York City. C. W. Weber, New York State Department of Health, 18 Dove St., Albany 6, N. Y., Secretary-Treasurer.

Iowa Milk Dealers Association—1952 annual convention, October 28-31, in the Hotel Fort Des Moines, Des Moines, Iowa. Executive Secretary, John H. Brockway, 906 Walnut Bldg., Des Moines 9, Iowa.

Washington State Dairy Foundation—Annual foundation in November, 1952, at Hotel Vancouver, Vancouver, B. C. A. Frank Bird, 808 Skinner Bldg., Seattle, Wash., Secretary.

Colorado Dairy Products Association, Inc.—The 1952 annual convention, December 7, 8, and 9, at the Shirley Savoy Hotel in Denver, Colo. Ward K. Holm, 701 Kittredge Bldg., Denver 7, Colo., Executive Secretary.

Illinois Dairy Products Association—Annual meeting, December 15-16, at the Morrison Hotel, Chicago. Secretary, G. M. Van Buskirk, 309 W. Jackson Blvd., Chicago, Ill.

Pennsylvania Association of Milk Dealers, Inc.—annual convention, February 19 and 20, 1953, Hotel Abraham Lincoln, Reading, Pa. Executive Vice-President, Benj. C. Eynon, 624 Telegraph Bldg., Harrisburg, Pa.

American Dairy Association—Annual meeting, March 22-24, 1953, Morrison Hotel, Chicago, Ill.

Thirteenth International Dairy Congress—The Congress, June 22-26, 1953, at The Hague, Netherlands. G. H. Hibma, general secretary, The Hague, Netherlands.

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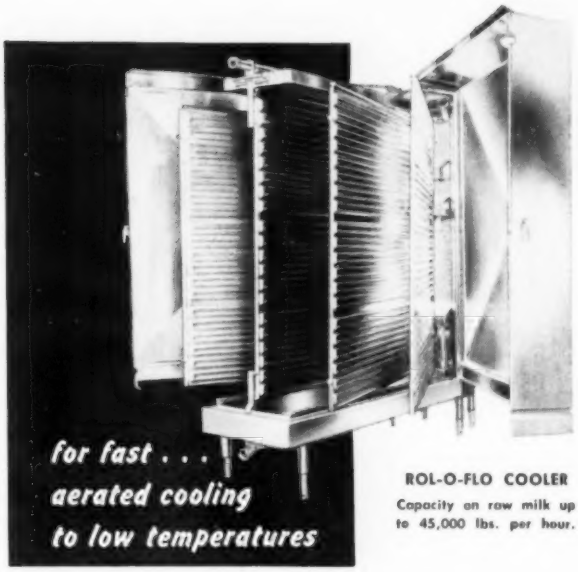
SHORT COURSES

Dairy Bacteriology Short Course and Examination—Penn-Emphasis on grassland farming, grass silage and forage; field trips covering experimental pasture and feed work.

Dairy Bacteriology Short Course and Examination—Pennsylvania State College, State College, Pa., August 11-27. Standard methods used in bacteriological analysis of dairy products. Registration before July 28 required, fee $21.00 (additional $15 for non-residents of Pennsylvania). Dairy Laboratory Director licensing examination additional fee of $10. Contact A. Leland Beam, Director of Short Courses, School of Agriculture, State College, Pa.

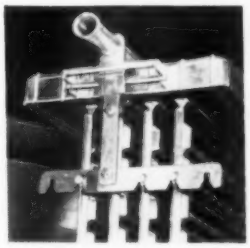


ROL-O-FLO COOLER
Capacity on raw milk up to 45,000 lbs. per hour.

rely on Rol-O-Flo

Let your product roll down the "leaves" of this Cherry-Burrell Rol-O-Flo Cooler . . . and you can rely on rapid cooling to low temperatures. Surface aeration removes many volatile flavors and odors.

Here's WHY You Get Uniform Distribution



Product in trough flows through distributor holes, showers down on the flat top of a specially designed distributor bar that spreads it evenly down *both* sides of cooling "leaves" in a uniform, thin film.

Other Outstanding Rol-O-Flo Features

High Capacity Cooling Surfaces—Tubes on "leaves" handle large volume of refrigerant with minimum pressure drop. Cooler "leaves" can be added to increase capacity. Three cabinet sizes to accommodate 5, 7 or 11 leaves. Oil purge valve on each leaf of direct expansion units.

Sanitary—Easy to Clean—Stainless steel product surfaces. Cabinet encloses "leaves" to protect product against dust, moisture, plant odors. "Leaves" swing out for easy cleaning.

Takes Minimum Floor Space—Neat, compact, easy to clean underneath. Addition of "leaves" does *not* increase overall cooler size.

Ask your Cherry-Burrell Representative about Rol-O-Flo's greater cooling efficiency. Or write direct to your Branch or Associate Distributor.

CHERRY-BURRELL CORPORATION
427 W. Randolph Street, Chicago 6, Ill.
Equipment and Supplies for Industrial and Food Processing
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

FREE!

SERVICE CAP

Paperlynen Caps are adjustable to any headsize, eliminating inconveniences of shrinkage, assortment of sizes, and time wasted by each employee in selecting his size. Cost less than expense of laundering cloth caps. Light and more comfortable to wear. Distinctive with your special imprint. Millions used annually by nationally known concerns. Just mail coupon below TODAY, and we will send you absolutely FREE, a Patented Adjustable Paperlynen Service Cap.

PAPERLYNEN COMPANY
555 West Goodale St., Dept. E-7
Columbus, Ohio
Please send absolutely FREE, a Patented Adjustable Paperlynen Cap.

Name .....

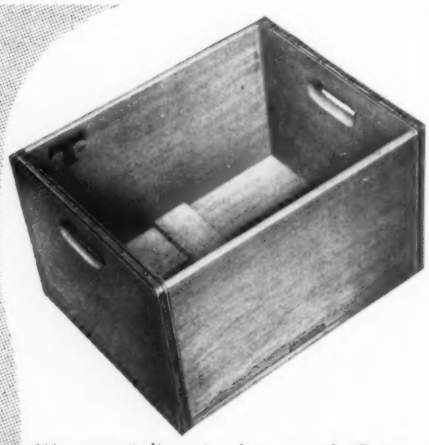
Address .....

City ..... State .....

Name of Dairy Supply Jobber Most Frequently Patronized:

.....

TREEN MILK CASES *for paper bottles* **COST LESS** *because they* **MAKE MORE TRIPS**



We specialize in boxes of Cottonwood — the lightest weight hardwood. Reinforced with galvanized strapping and nails. Has stacking bottom. Fine in appearance, strong and durable, the most economical milk case to use.

*Can be furnished with stainless steel strapping and dipped in fungus proof material.

TREEN BOX COMPANY

Tioga and Memphis Sts., Phila., 34, Pa.

"ACES IN CASES" FOR OVER 50 YEARS

NATIONAL DAIRY TO BUY VEGETABLE OIL COMPANY

Negotiations are under way for the acquisition by National Dairy Products Corporation of The Humko Company and The Trendex Company, both of Memphis, Tenn., it was confirmed today by E. E. Stewart, president of National Dairy.

Humko and Trendex will operate as affiliates of National Dairy Products Corporation, and will continue to serve their customers, both old and new, under the same management.

According to L. A. Van Bomel, chairman of the board, and E. E. Stewart, president, of National Dairy Products Corporation, this move is in line with National Dairy's policy of diversification into promising markets.

S. L. Kopald is board chairman and Herbert Humphreys president of The Humko Company, which they founded in 1930. The company initially produced only household shortening, and in 1934 added the production of fully hydrogenated vegetable oil shortening for commercial baking companies. From time to time it has added specialized products for baking purposes, and in 1938 began production of salad and margarine oils for manufacturers of margarine, salad dressing, etc.

Mr. Ferdinand Eberstadt of F. Eberstadt & Co., Inc., New York, is assisting Mr. Kopald and Mr. Humphreys in the negotiations with National Dairy.

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ADA SHOOTS FOR $2,350,000

The 1952 ADA Advertising Set-Aside campaign is in full swing, and with twenty-three states on a 60-day period, the forecast is for the most outstanding year in ADA's business life.

"Every day we gain evidence of more widespread cooperation from the grass roots and the industry in every section of the country," Owen M. Richards, ADA general manager, reported. "It all adds up to further proof that the basic business idea of 'the many doing together what no one man can do alone' is sound and profitable."

Based on the set-aside of one cent per pound of butterfat delivered by the producer to the plant, it's estimated that the funds the nation's dairy farmers will provide for the year-around advertising and merchandising of butter, milk, cheese and the other dairy foods will reach the $2,350,000 figure. This is approximately 15% higher than the record-breaking $2,050,000 mark of last year.

States now on the sixty-day advertising set-aside are Wisconsin, Minnesota, Idaho, Iowa, Washington, North Dakota, South Dakota, Montana, Illinois, Kansas, Missouri, Michigan, Utah, Oklahoma, Colorado, Oregon, Texas, Wyoming, Louisiana, New Mexico, Mississippi, Alabama and Arizona. The remaining ten are on 30 days with the exception of the Atlantic Region.

The advertising, merchandising, publicity and research activities for the year ahead will be mapped out at the Summer Executive Session to be held in St. Paul, Minnesota, July 23, 24 and 25.

$50,000 SEALTEST COTTAGE CHEESE CONTEST

Over 1,700 cash prizes will be offered in the big $50,000 Sealtest Cottage Cheese Jingle Contest announced by the Sealtest divisions of National Dairy Products Corporation, New York.

The contest, first of its kind to be conducted by the company for its Sealtest Creamed Cottage Cheese, begins on May 19 and ends at midnight, June 29.

Entrants are required to complete this jingle on the entry blank:

"If you're thrifty and wise," said Louise,
"You'll buy SEALTEST, the *best* cottage cheese.
"It's so fresh and delicious
"In so *many* dishes

"....."

(last line to rhyme with "cheese")

Entries must be accompanied by the top from one carton of Sealtest Creamed Cottage Cheese. Entry blanks are included in newspaper ads and are also available from Sealtest dealers and routemen.

First prize in the contest is $10,000 cash, second is $5,000, and third $1,000. Others are as follows: 10 fourth prizes—$500 each; 100 fifth prizes—$100 each; 200 sixth prizes—$25 each; and 1,400 seventh prizes—$10 each. Entries will be judged by The Reuben H. Donnelley Corporation.

Full-page full-color ads announcing the contest will appear in comic sections of 41 newspapers in 38 cities. The contest will also be supported by black and white ads in over 150 newspapers, by announcements on the Sealtest Big Top television program aired Saturdays over CBS-TV, and by point-of-sale materials.

●

DOLE REFRIGERATING COMPANY 25TH ANNIVERSARY

1952 marks twenty-five years of manufacturing experience back of the Dole Vacuum Plate Evaporator which was designed, patented, produced and pioneered by Dole for all types of refrigeration applications.

Through the years Dole vacuum plates have worn wide acceptance everywhere in the United States and all over the world for the freezing, storing and transporting of perishable foods.

One of the first applications was the modernizing of old brine cabinets by installing Dole conversion units. Some of the early ice cream companies that installed truck plates in Chicago were Borden, Cunningham (later Borden's), Paradise, Swift and Shedd. The Shedd Company was one of the first ice cream companies to distribute frozen foods.

The first Dole plates manufactured are still in use and still give the same efficient service and satisfaction today as when first installed.

Continuous research and development of new products combined with the loyalty, cooperation and help of customers, suppliers and employees has made Dole a leader in serving the industry.

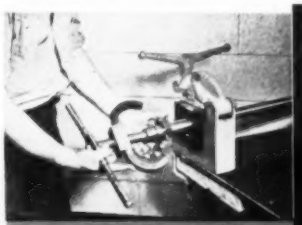
Mr. Hi Shine Says:.

Only with the A-P-C System can you fit and refit your Sanitary fittings

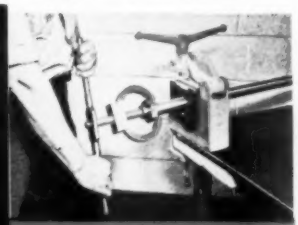
WITH A-P-C equipment you can remove A-P-C ferrules from your sanitary tubing for re-use in making new, leak-proof connections. In fact A-P-C ferrules can be re-used time after time. So can the same tube end.

That's a mighty big economy in ferrule and tube cost when you are making changes in your sanitary line installation. It's all done with the A-P-C Ferrule Puller and Expander tools. Both are so mistake-proof even an inexperienced worker cannot damage tube or ferrule in a removal operation. Nor can he over-expand or under-expand the tube in making a new joint. Pressure limit is automatically set.

These are just more good reasons for standardizing on A-P-C Stainless Steel Fittings in your plant.



The A-P-C Ferrule Puller
Here's the exclusive A-P-C Ferrule Puller about to go to work. The Adaptor is inserted in the ferrule at the end of the Puller screw and



the clamp arms come down back of the hexagonal nut; a few turns of the screw — and the undamaged ferrule is free — ready for re-use.

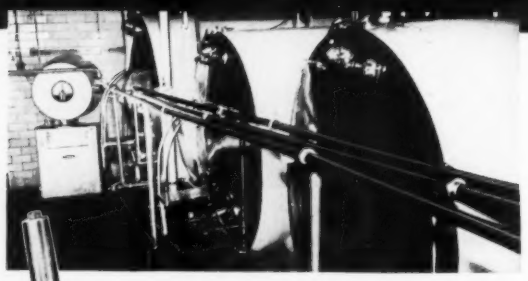
The A-P-C Expander
The process of expanding sanitary tube to the ferrule was pioneered by A-P-C years ago. In the A-P-C Expander pressure limit is set at the factory to prevent over or under-expansion.

WALTER J. WACHOWITZ
President

ALLOY PRODUCTS CORP.

WAUKESHA, WISCONSIN

Repairs Damaged Dairy Pipe Threads



BUCKINGHAM
Thread Restorer

Save hundreds of dollars on piping repair and replacement cost! Just slip a Buckingham Thread Restorer over damaged Sanitary Dairy Pipe Threads and back-off. Presto — flats and nicks are eliminated . . distorted male threads are again usable!

One Buckingham Thread Restorer adjusts to all pipe diameters from 1" to 3". No separate expensive die sets are needed.

Write for free folder and name of nearest dealer

BUCKINGHAM MANUFACTURING CO., INC.
55-57 Travis Street Binghamton, N.Y.

TITAN
UTILITY BRUSH

STANDARD SIZE

NYLON BRISTLES

FLO-PAC BRUSHES

Crimped nylon bristles hold more water--are more sanitary--do a better cleaning job. Available in three grades of stiffness.

CHOICE OF OVAL OR FLAT FACE.

HARD RUBBER BLOCK

Both TITAN and No 5017 are built to outlast fibre bristle brushes---after more than 2 years of production we have not seen a worn out TITAN, and no customer has returned a TITAN that was ordered to conform to the cleaning job. NYLON BRISTLES do not wear out HARD RUBBER BLOCK cannot wear out.

ORDER FROM YOUR JOBBER OR WRITE TO DEPT 139 FOR MORE INFORMATION.

MILK CAN BRUSH

NO. 5017

Filled with long wearing nylon bristles in a hard rubber block, curved 6" x 2-1/2".

FLOUR CITY BRUSH CO. 3500 4th Ave South Minneapolis 4, Minn.
PACIFIC COAST BRUSH CO. 2107 Santa Fe Ave Los Angeles 21, Calif.

STATE TO INTERVENE IN CO-OP PAYMENT CASE

New York State has decided to intervene in a lawsuit pending in the Federal Courts which, if successful, would deprive cooperative associations of milk producers of payments from the New York pool for services performed for the market as a whole.

Announcing State intervention, Agriculture Commissioner C. Chester Du Mond said the decision is based on "our desire to protect the rights of the vast numbers of milk producers who are affiliated with cooperatives and who supply the New York metropolitan market," and he added:

"The New York order is jointly administered by the State and the Secretary of Agriculture of the United States. Our State law provides for the payments which were worked out on a graduated scale after long and careful deliberation. Practice has proved the law sound, in our opinion.

"It is desirable to do everything possible to defend all portions of the milk marketing order which so directly and vitally affects milk producers in the New York milkshed," Commissioner Du Mond declared, "and upholding of the Grant contention might jeopardize the entire order."

The proposed intervention by the New York State Department of Agriculture and Markets is in an action brought by Oscar L. Grant and other independent producers against Secretary Charles F. Brannan of the United States Department of Agriculture. The action is brought in Federal District Court for the District of Columbia. It challenges the right of the cooperative milk producers to receive cooperative payments out of the metropolitan pool.

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PORTERSVILLE STAINLESS EQUIPMENT CORP.

Beginning June 15, 1952, Portersville Stainless Equipment Corporation becomes the name of the manufacturer formerly known as Portersville Stainless Products Corporation. As of August 31, 1951, Stainless Products Corporation (New York) ceased to be the distributor of this company's products.

The Portersville Stainless Equipment Corporation manufactures stainless steel liquid and bulk transportation tanks, farm pickup transportation tanks, refrigerated storage tanks and insulated storage tanks for use by the dairy, food and chemical industries. There will be no change in management or operating personnel. E. S. Heinsohn is president and F. C. Patera, vice-president.

●

MICHAEL HENDLER, BORDEN'S ICE CREAM COMPANY, DIES

Michael Hendler, president of Borden's Ice Cream Company, Wilmington, Del., died June 8 in the University Hospital in Philadelphia. He was 56 years old.

Mr. Hendler helped establish the Sharpless-Hendler Ice Cream Company of Wilmington, which was incorporated in 1919. He was vice-president of the firm in 1929 when it was acquired by The Borden Company and became its president in 1934. The Sharpless-Hendler

name was changed to Borden's Ice Cream Company in 1946.

In 1950, Mr. Hendler was appointed chairman of The Borden Company's South East District which distributes ice cream products in Delaware, Maryland, New Jersey and northeastern Pennsylvania, and has plants in many cities in the area.

Surviving are three brothers, L. Manuel, Bernard and Louis, and three sisters, Mrs. Jacob Levin, Mrs. Henry Goldstone, and Mrs. Ann Biron.

●

J. H. FRANDSEN HONORED AT IOWA STATE COLLEGE

J. H. Frandsen, emeritus head of the department of dairy industry at the University of Massachusetts, was honored at Iowa State College at Alumni Day activities when he received the Chicago Alumni Merit Award on Saturday, June 14.

Inaugurated in 1932, the award is bestowed upon outstanding alumni for meritorious service in their fields and their contributions to their fellowmen.

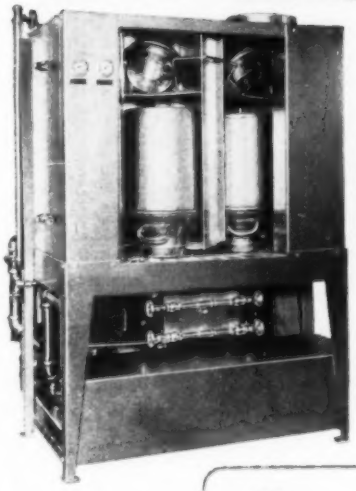
Born in Story County, Iowa, on April 28, 1877, Julius Herman Frandsen was graduated from Iowa State College in 1902 with the degree of Bachelor of Science in dairy industry. He received his Master of Science degree in 1904 from Iowa State College. During the years 1902 through 1904, he was agricultural chemist at Iowa State College. From 1904 through 1907, he was chemist for the Hazelwood Creamery Company, Portland, Ore. For the next four years, he served as head of the dairy department of the University of Idaho, and from 1911 to 1921, he was head of dairy industry at the University of Nebraska, Lincoln, Neb. From 1921 through 1924, he was dairy editor for the Capper Farm Press. Prior to this, he founded and edited the Journal of Dairy Science from 1916 to 1928. In 1926, he was named head of the department of dairy industry at the University of Massachusetts and held this position until 1947 when he became emeritus head.

Frandsen's research has been in the fields of dairy product food value and in dairy cattle improvement. In connection with this work, he has authored over 50 bulletins and circulars. He is joint author of two texts: "The Manufacture of Ice Creams and Ices," and "Ice Creams and Other Frozen Desserts."

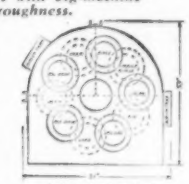
He is a member of Gamma Sigma Delta, agriculture honor fraternity; Phi Kappa Phi, scholastic honorary, and Sigma Xi, science research honorary. He is also a member of the American Dairy Science Association and served as president in 1913 and 1914 and received a life membership and award of merit citation from that group in 1940. In 1916, he was president of the Nebraska State Dairymen's Association which awarded him a plaque of appreciation in 1926. He organized the New England Milk Dealers' Association in 1935 and received their scroll in 1947. In 1942, he received a certificate of merit from the Massachusetts Milk Inspectors' Association of which he was a member. He is also a member of the New England Ice Cream Manufacturers' Association and the American Association of University Professors.

CATTARAUGUS
Home of Jack the Giant-Killer!

Influenza or Grippe Bacillus—a tough proposition. Tornado slaughters 'em.



PURITY Tornado Rotary Washer Model 50. Diagram shows how we pack ten complete steps in a five-step machine. 51" x 53" floor space over all. Really washes, rinses, sterilizes and dries with big-machine thoroughness.



PACKS A SUPER-DUTY PUNCH!

Tornado Action

THIS is the little washer with the big fist! Not a makeshift, but a full-fledged machine. The PURITY patented "two-step" movement is the secret of its tremendous efficiency. Within its wonderful but diminutive jacket, the three-can machine above holds but five cans. But it actually possesses twice that many processing positions, as follows: Load, Pre-rinse, Drain, Solution-wash, Drain, Rinse, Sterile Rinse, Live Steam, Air Dry, and Unload. (Each can receives nine seconds of concentrated "Tornado washing treatment.") Imagine packing all that inside the jacket of a little three-can machine!

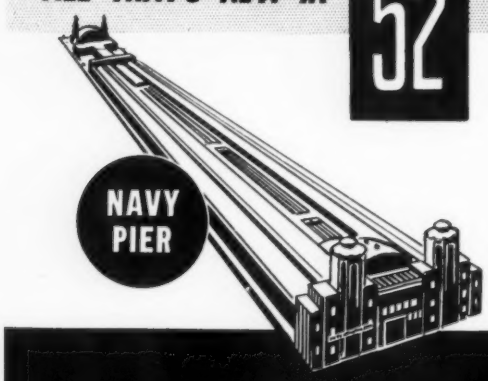
CATTARAUGUS: *Nestled high in the beautiful uplands of western New York State is this community of contented, thrifty, skilled PURITY workers. Just can't help building their own sturdy character into every piece of equipment they produce.*

No Superduty could do a more thorough job. Write at once for handsome descriptive bulletin.

PURITY
Manufacturing Company, Inc.

MILK HANDLING MACHINERY & EQUIPMENT
Oakes & Burger, Inc., Sole Distributors
CATTARAUGUS, N. Y., U. S. A.
EST. 1873 Over seventy-five years of honest equipment

ALL THAT'S NEW IN '52



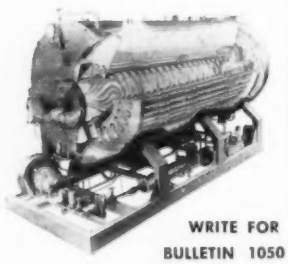
DAIRY INDUSTRIES
EXPOSITION

CHICAGO • SEPT. 22-27

AMESTEAM GENERATOR

I Bought One Because It's

EASY TO INSTALL
EASY TO OPERATE
EASY TO CLEAN



10 to 500 h.p.
15# to 200# w.p.
OIL or GAS

WRITE FOR
BULLETIN 1050

AMES IRON WORKS
BOX B-7, OSWEGO, N.Y.
Builders of Better Boilers Since 1848

C. W. ESMOND RETIRES FROM ACTIVE PARTICIPATION IN INDUSTRY

C. W. Esmond, vice-president of G. P. Gundlach & Company, Cincinnati, has announced his intention to "take things easier" following 33 years of responsibilities concerning business activities.

Esmond, associated with George P. Gundlach, president of the Gundlach organization since 1919, has decided to resign his active vice-presidency for a more leisurely living to conserve physical strength. He will continue, however in a consultant capacity with the Gundlach organization and has been designated as vice-president emeritus.

In recognition of Esmond's long association with him and for his important contributions to the dairy business, George P. Gundlach has presented Esmond with a commemorative jeweled lapel insignia for the "33 Club"—a newly-created recognition which the firm will use as an honor for any employee or associate attaining a third-of-a-century connection with the organization.

One of Esmond's written works entitled "Getting Ahead on the Milk Route Today" has been a sort of "Bible" for the dairy products industry, with numerous re-printings for a circulation that has gone about every place in which there is a dairy interest or a dairy plant operation. A more recent year work—entitled "The Education of Two Milk Men" embracing application of modern techniques for more adequate, successful distribution of dairy products to the consumer, has similarly attained wide recognition.

•

ANYTHING IN THIS, DOC?

Low cost radioactive food processing may be feasible in the next few years, according to a survey conducted by the Stanford Research Institute at the request of the Atomic Energy Commission.

Results of the survey, summarized by Paul J. Lovewell, director of the research group, in the June issue of Scientific American, show that the millions of gallons of fission products now lying idle in Government storage tanks have tremendous potential value for a number of industrial purposes with one of the most important potential uses, according to the survey, in the food processing industry.

Although considerable experimental work in the sterilization of fresh food by radiation has been done at a number of research centers in the past few years, the economic feasibility of the method until now has been open to question. The Stanford group, however, believes that the possibility of obtaining radiation at low cost

from atomic pile production opens the way to its wide utilization.

Heat, the treatment now generally used to kill bacteria and preserve food, is known to destroy certain nutrients and change the flavor of certain foods. With radioactivity, food-processors could sterilize without resorting to use of heat. Food would be exposed after packaging to radioactive material in an enclosed, shielded space. There is no danger of the food itself becoming radioactive. The penetrating gamma rays kill all destructive organisms and the sealed package prevents bacteria from attacking the food.

According to the Stanford survey, some foods that now require refrigeration after packaging could be stored at room temperature. Radioactivity, they feel, could also be used to sterilize the surface of fresh foods that are not now treated, such as tomatoes, oranges, apples, melons, grapes and eggs. A relatively rapid treatment of the surface would prolong the shelf life and reduce the need for refrigeration. The report states that radioactive pasteurization of milk and other dairy products may also be feasible.

Radioactive bombardment of such products as prepared cake, cookie, bread, ice cream and other mixes could, the survey states, greatly extend their shelf life. The control of insect infestations in grains, flour, cereal, beans, and a wide variety of other stored or packaged products could also be accomplished through radiation.

Vast quantities of fission products, the Stanford study shows, should become available in the future to the food processing industry at relatively low cost. Many technical and economic problems, it is pointed out, must be solved before fission products can be used on a large scale. Although more work is needed on problems of processing, engineering and safe handling, most of the difficulties are considered surmountable, and research programs are going forward at various universities and government projects under the direction of the Atomic Energy Commission.

●

OFFICE BOY MAKES IT TO V-P

Gerard C. Fochtman, who started to work for The Borden Company as an office boy 12 years ago, has been named assistant on advertising and merchandising to Sam Thompson, vice-president of The Borden Food Products Company. Mr. Fochtman will coordinate all advertising and promotional activities for the various products of The Borden Food Products Company. He also will be liaison man between it and Borden's general advertising department.

Mr. Fochtman began selling Borden's line of grocery products in 1941. A year later he entered the U. S. Army and served in the Pacific and China-Burma-India theatres until 1945 when he returned to Borden's. Two years later, he did market analysis on the company's Hemo and malted milk. In 1950, he was promoted to assistant advertising manager for Borden's evaporated and condensed milk, the position he held until his present position.

Robert Butterfield, formerly West Coast salesman for Borden's grocery products, has been transferred to New York City to become assistant to A. J. Berry, product manager for Borden's evaporated milk.

CHERRY-BURRELL Offers

*the Searls Fly-Bar**

FOR EASIER INSECT CONTROL

It's simple! It's effective! The Fly-Bar directs a protective blast of fast-moving air across the conveyor door. Cans move freely in or out, but flies and other filth-bearing insects cannot enter your plant. They are instantly blown clear. They cannot penetrate that strong air curtain. The Searls Fly-Bar is engineered and built to direct the greatest velocity and turbulence right at the can. Flies can't fly in . . . can't crawl in . . . can't even ride in under the can lid!

Learn more about this modern, easier method of insect control, from your Cherry-Burrell representative.

*Trade-Mark

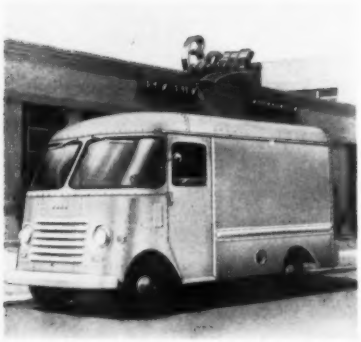
CHERRY-BURRELL CORPORATION

427 W. Randolph Street, Chicago 6, Ill.

Equipment and Supplies for Industrial and Food Processing

FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

USING OUR SEPARATOR



Aluminum Truck Bodies

ALUMINUM - ALLOY MAN-HIGH bodies that have more than twice the load-space but weigh less than low conventional panels are now available from Olsen for Ford F-3 and F-5 Parcel Delivery chassis.

All three Olson Kurb-Side bodies are of aero-type, stress-bearing shell construction, and use only heat-treated aluminum alloys. The side panels, skirts and rear panels are of ⅛"-thick, resilient aluminum plate that is said to prevent 90% of the denting of route trucks. No posts and ribs are used in the side panels and no linings are required. Body floors are also made of thick aluminum plate, supported on aluminum cross members. The underbodies are insulated and silenced by a thick bitumastic coating.

Other features include panoramic windshields with E-Z eye safety glass square wheel housings, roof insulation, massive, 96-lb. rear bumper, choice of 38" or 58" double rear doors (full-width, square-back double doors are optional), and separate side panel skirts that are replaceable without disturbing the main side panels and lettering.

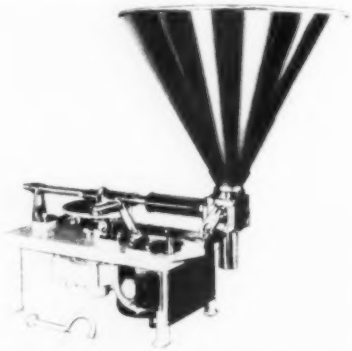
For further information write J. B. E. Olson Corp., 1740 Broadway, New York 19, N. Y.

•

Food Filler

ADJUSTABILITY WITHOUT any parts changing is featured in the Simplex Food Filler for filling gallon and quart containers.

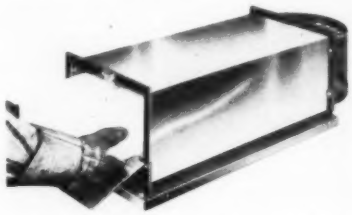
Single shot piston discharges 15 or more fills per minute of desired quantity with complete accuracy. Requires 10 minutes or less to dismantle and clean. Forty gallon cone or "U" shaped hopper. Sturdily constructed of exceptionally heavy castings with acid-resistant stainless steel and nickel alloy contact parts.



Inexpensive . . . simplifies filling of all liquid and semi-solid foods. Manufactured by F. L. Burt Company, 571-7th St., San Francisco 3, Calif.

Dry Ice Bunker

DESIGNED FOR EFFECTIVE, economical refrigeration of smaller trucks such as the Vanette and Metro types, the new Foster-Built "Refrigerette" efficiently cools loads of ice cream bars and similar merchandise.



The Refrigerette measures only 10" x13"x32"; is designed to use dry-ice blocks of ½-thickness. Weight is approximately 30 lbs.

For additional information write to Foster-Built Bunkers, Inc., 757 W. Polk St., Chicago, Ill.

•

White Rubber Bands

FREEZE-RESISTANT white rubber bands, made by The B. F. Goodrich Company, Akron, Ohio, are now available for use in packaging and storing food in refrigerators and deep freeze units.

Made of a special rubber compound developed to resist sub-zero temperatures, these bands retain elasticity in temperatures as low as 30° to 40° below zero, it is said.

They can be used for holding and sealing covers or various types of wax, parchment paper or other protective wrappings on food packages.

TESTED BY TIME!

Over 50 Years Experience making Chocolate Flavor Powders
Forbes Offers You:

- A TRUE CHOCOLATE FLAVOR — NO SEDIMENT
- CONVENIENT BATCH SIZE PACKAGES
- EASY AND ECONOMICAL TO USE

Write or wire for a FREE sample and compare it — or better still, send us a trial order.

Forbes
The BENJAMIN P. FORBES CO.
2000 WEST 14th ST. • CLEVELAND 13, OHIO

OFF FLAVORS
from PASTURE FEEDING

- Lower the score of your CREAM and BUTTER. Use

F-L SELECTIVE NEUTRALIZER
To eliminate these undesirable flavors
and
F-L BUTTER FLAVOR INTENSIFIER
To enhance the natural Flavor and Aroma of your butter.
Complete Instructions With Your Order.
WRITE TODAY!

FL FLAVOR-LINE INC.
845 S. WABASH AVE. CHICAGO 5, ILL.

Insect Control

A DEVICE DESIGNED to keep flies and other insects from entering dairy plants through carconveyor wall openings is the Searls Fly-Bar, developed by Cherry-Burrell Corp., 427 Randolph St., Chicago, Ill.

The Fly-Bar subjects cans of milk or cream on the conveyor to a blast of fast-moving air which flies are unable to penetrate; even those underneath the can lid are dislodged.

This unit is built in two models—one for incoming conveyors and one for outgoing conveyors.

Inspection Light

FOR PLANTS with limited space to install an effective inspection light, a new "Junior" Keenline Fluorescent Inspection Light is now being manufactured by Keenline Equipment Corporation, Oshkosh, Wisconsin. With an over-all length of only 20", this smaller unit is powered by 5 daylight fluorescent tubes.

Plants with capacity from 24 to 60 bottles a minute that desire to have double inspection, one before the bottle is filled and again as it reaches the accumulating table to be packed, will find this new "Junior" unit very good for the job.

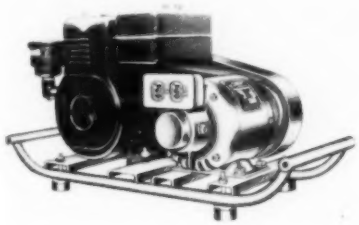
•

Plastic Containers

THE 25 OZ. POLYSTYRENE container has been added to the popular Freeze-Pak line by the Rogers Plastic Corporation, West Warren, Mass. Blue, transparent, with a lock-tite polyethylene cover. The new Freeze-Pak supplements the 8 oz., 16 oz., and 30 oz. sizes already being produced by Rogers. Available in bulk or packaged in display cartons.

Generator

A NEW DEVELOPMENT in engine-driven electric generators is announced by Wincharger Corporation. They are available without or with engine. The belted construction is designed to make mounting or dismounting of the engine a simple matter.



The generator, engine-generator mounting base, belt guard, generator and engine pulleys and "V"-belt are sold as a package. The engine mounting base is drilled to receive several popular makes of engines. These units are offered in capacities of 300, 500, 1350, 2500 and 10,000 watts.

For information write to Wincharger Corp., East 7th and Division Sts., Sioux City, Iowa.

Do You Know How To Safely Lubricate

• Valves • Pistons • Pumps • Gaskets

for WATER ICES AND SHERBETS?

The Answer is..... the 100% Sterile lubricant in the Orange Tube!

When summer heat brings a greater demand for water ices and sherbets, your gaskets, valves, pistons and pumps need extra attention. Ice cream making with whole milk gives your equipment a degree of lubricating — not so with ices and sherbets. A touch of Orange Solid Oil in the collapsible tube keeps these parts in perfect working order.

Order a quantity of Orange Solid Oil in tubes today! It's 100% pure; contains no vegetable fats or fillers. Used nationally by dairy and ice cream plants.

ORDER TODAY!
$3.00
for 6 — 4 oz. Tubes
$5.50
for 12 — 4 oz. Tubes
F.O.B. Columbus, Ohio

McGlaughlin Oil Company
3750 E. Livingston Avenue Columbus, Ohio
Packaged by the authority of The Famous Lubricants, Inc.

Profit Builders for the bottled beverage Industry for Over 25 Years

QuiKold

Electric and Ice
BEVERAGE COOLERS

★ QUIKOLD coolers have helped sell many millions of dollars worth of bottled beverages over the past 25 years!

They will help sell your products . . . . and build profits for you too!

Model 1400-WD-2 ELECTRIC

S. & S. PRODUCTS, INC.
P. O. BOX 1047 ★ LIMA, OHIO

Viscosity Testing

SEVERAL NEW MODELS and features have been added to the Brookfield line of Synchro-Lectric Viscometers. These items feature precision and sturdy design.

Determinations are secured directly in centipoises by merely inserting the instrument's spindle in the material to be measured, flicking on a switch, and reading the dial. The whole operation, including cleaning up, usually takes only a minute or two.

Complete information concerning the new 1952 line of Brookfield Viscometers can be secured by writing Mr. Wm. B. Brookfield, President, Brookfield Engineering Laboratories, Inc., Porter St., Stoughton, Mass.

●

Floor Maintenance

A PRACTICAL GUIDE for economical and efficient care of of floors covers the conditioning, repairing and maintenance methods for the widest variety of floor materials—concrete, asphalt tile, cork, linoleum, magnesite, terrazzo, wood.

For a free copy, write to A. C. Horn Company, Inc., 10th St. and 44th Ave., Long Island City 1, N. Y.

Insecticide

FROM THE RESEARCH Laboratories of The Diversey Corporation comes news of a new insecticide called Diverside.

The manufacturers claim that in actual tests against 12 competitive insecticides Diverside excelled in kill-power, speed and completeness of insecticidal action. It is also claimed that Diverside gives exceptional kill-power per dollar cost; DDT-free, non-toxic, entirely safe to use, odorless.

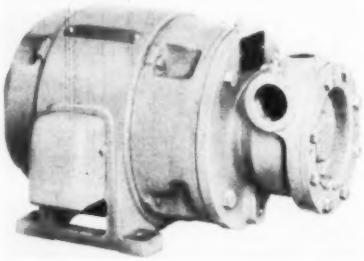
For further technical information on Diverside and a free demonstration of its action, write to Industrial Insecticides Department, The Diversey Corporation, 1820 Roscoe St., Chicago 13, Ill.

●

Pumps

FOR PUMPING HOT and cold, clear and vaporous liquid, in moderate capacities, against medium or high heads, Peerless Pump Division, Food Machinery and Chemical Corporation has recently introduced a complete line of self-priming and standard turbine vane type pumps.

Capacity range at 3,500 rpm is up to 58 gpm; at 1,750 rpm, up to



56 gpm. Head range at 3,500 rpm is up to 800 feet; at 1,750 rpm, up to 300 feet. Motor sizes up to 20 hp are available at 3,450 rpm and up to 7½ hp at 1,750 rpm.

Complete descriptions of these pumps together with head-capacity selection charts, sectional views and elevation drawings and dimensions are included in Bulletin B-2205, which may be obtained by writing Peerless Pump Div., Food Machinery and Chemical Corp., 301 W. Avenue 26, Los Angeles 31, Calif.

●

Oil Filter

AN OIL FILTER, "Filterall," is said to have a unique, permanent filtering element which eliminates the need for cartridge pack replacements, which will not cause a loss of oil through absorption nor slow up the passage of oil through the filtering element. "Filterall" is about half the size of conventional oil filters. It has a permanent filtering element constructed of carefully sized, spherical-shaped bronze particles fused together where they touch. It is claimed that it will not bypass cold oil, nor absorb protective additives in the oil. Prices start at $6.95.

"Filterall" is manufactured by Permanent Filter Corporation, 2309 Riverside Dr., Los Angeles 39, Calif.

●

Interchangeable Stacking Cases

STURDY, WELL CONSTRUCTED CASES which can be stacked interchangeably with other cases thus reducing handling and delivery costs are made by Barker Equipment Company.

The new No. 8520 can be used for glass or paper milk bottles or cottage cheese containers. Capacities: 20 paper milk bottles (quarts) or 27 —12 oz. cheese containers. The case can be ordered 2" deeper than stand-

Low Cost Sanitary Way to **CLEAN ALL CANS**

Thoroughly cleans inside of straight or irregular shaped cans. Multiple fingered rubber scrubber gets to every corner and crease. Electrically operated. Attach water line, plug in and it's ready to go.

Write, Wire or Call for FREE FOLDER

GORDON JOHNSON COMPANY

2519 U Madison St., Kansas City, Mo.

ard size to accommodate 36–12 oz. cottage cheese containers.

Barker cases are of all steel welded construction, with no wire ends to mar paraffin coatings. Partitions quickly inserted convert this paper bottle case for glass bottles. The special self-stacking bottom has a solid round bar which slides smoothly into position. These cases can be stacked higher than most other types because of this feature.

For complete details write to Barker Equipment Co., Keosauqua, Iowa. For pictures of some of these cases, see page 49 of this issue.

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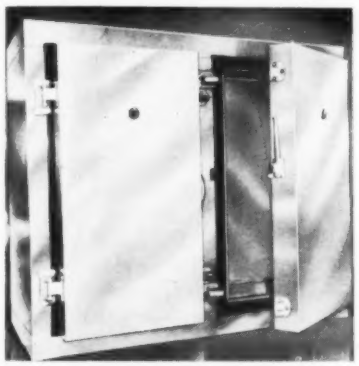
Coolers

TWO NEW MODELS of the RECO low-cost and compact reach-in type coolers have been introduced by Reco Products Division, Refrigeration Engineering Corporation, 150 Nassau St., New York, N. Y.



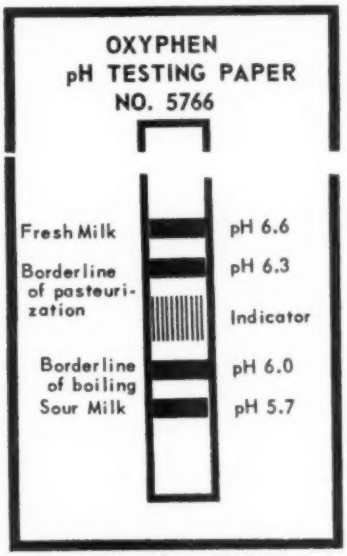
One unit has 47 cu. ft. capacity, occupying 15 sq. ft. of floor area, capable of storing 1,350 pounds of frozen food or 210 gallons of ice cream. The other unit is 102 cu. ft. capacity, occupying 28 sq. ft. of floor area, and is capable of storing 3,050 pounds of frozen food and 472½ gallons of ice cream.

Easily assembled. Panels are sheathed in a special aluminum laminate requiring no maintenance or refinishing; vapor proof; highly heat reflective; available with or without refrigeration equipment.

●

Acidity Test Paper

THE DISTINCTIVE FEATURE of Oxyphen pH testing paper is that the indicator and comparative test colors are printed on the same strip, avoiding the necessity of matching wet colors with a dry one



in ascertaining the pH factor of a given fluid.

The entire testing strip is immersed in the milk, removed, and the degree of acidity is immediately and accurately known. The types best suited for testing milk and milk products are No. 5766 and No. 5469. A box of 250 strips costs $3.25.

For more information, write Dairy-test Service, 78-61–76th St. at Myrtle Ave., Brooklyn 27, N. Y.

Paper Bottle Carrier

A NEW 12-QUART PAPER BOTTLE carrier for Pure-Pak, Canco, or Sealright paper bottles has 3 compartments holding 4 bottles each. Several cartons of other dairy products will fit easily and snugly in any one of the compartments.

Damage from sharp edges or rough surfaces is minimized. Sturdy long-lasting flat floor made of flat wire; spring wire handle for comfortable, easy, and safe handling. Zinc-dipped; rustproof. Carrier No. 637 sells for $1.96 each; $1.86 each when ordered in quantities of 3 doz. or more.

For complete information, write D. C. Kies, Sales Director, United Steel and Wire Co., Battle Creek, Mich.

●

Paper Caps

AN INEXPENSIVE paper cap capable of sterilization many times without loss of strength has been developed by Technical Papers Corp., 25 Huntington Ave., Boston 16, Mass.

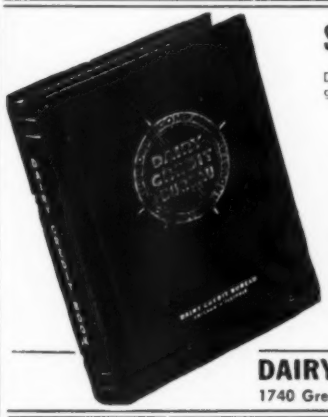
Stericaps are made of long vegetable fibers, flexible and non-rustling. They are comfortable to wear for long periods of time. It is estimated that the cost per use, if sterilized twenty times, is about half a cent.

ROTO-SEAL
Centrifugal Pump

Only stainless steel contacts milk—Sealed against air entering milk—no foam. No stuffing box—no oil leakage—no threaded surfaces in contact with milk. Easy to clean—disassemble or re-assemble in 30 seconds. Write for Bulletin H-691.

Sanitary Features
PROTECT MILK QUALITY

THE CREAMERY PACKAGE MFG. COMPANY
1243 West Washington Blvd., Chicago 7, Illinois
Branches in 21 Principal Cities



SO MUCH FOR SO LITTLE

DAIRY CREDIT BUREAU SERVICE gives you

Credit ratings on all milk processors.

Complete sales analysis of all dairy markets.

Jobber listings.

A collection system for bad accounts, and the DAIRY CREDIT BOOK which contains the listing of over 35,000 dairy industry firms by location, product, plant size, and key personnel.

Pays for itself and shows you a profit quickly. Write today.

DAIRY CREDIT BUREAU
1740 Greenleaf Ave., Chicago 26, Illinois

WANTS AND FOR SALES

Classified Advertising Rates

(Kindly send remittance with order)

Position Wanted

50 word maximum, 50c — 2c for each additional word

All Other Advertisements

Lightface type: 5c per word ($1.00 minimum).
Boldface type: 10c per word ($2.00 minimum).
(The name and address should be included in counting the words.)

Keyed Address

25c additional in the United States.
50c additional in Foreign Countries.

When replying to any of the following keyed advertisements please address replies to:

BOX NO. .....
92 WARREN STREET — **AMERICAN MILK REVIEW** — NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

EQUIPMENT FOR SALE

SPECIAL OFFERINGS — 11,000-lb. Creamery Package Short Time Pasteurizer; 350, 650 and 1,000 gallon Coil Vats; 30 hp. Kewanee and 50 hp. York Shipley Steam-Pak Boilers, oil fired; 32" x 90" Buflovak Double Drum Milk Dryers; Creamery Package Plate Cooler, Single Section, 58 plates; Combination of 1,000 lb. SS Weigh Can and Scale with 1,700 lb. SS Receiving Vat; Rice & Adams 12 CPM Can Washer; Sharples Pressur-Sealed All Stainless Clarifier, 12,000 lbs.; No. 18S DeLaval "Air-tight" Clarifier, 12,000 lbs.; 3,000 and 4,000 gallon Glass Lined Tanks (By-Products only). Lester Kehoe Machinery Corp., 1 East 42d St., New York 17, N. Y. 7-M-52

FOR SALE—No. 192 DeLaval Air-tight Separator including Waukesha pump. Good condition. Price Reasonable. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland 15, Ohio. 7-M-52

FOR SALE — 1 Model E, 8-wide Cherry-Burrell soaker bottle washer in first class shape. 1 GV-10 Cherry-Burrell bottle filler, left hand, in good condition. Sanitary Farm Dairies, Cedar Rapids, Iowa. 7-M-52

EQUIPMENT FOR SALE

FOR SALE—Size 200 model E Manton-Gaulin 2-stage Homogenizer. 2 years old. Like new. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland 15, Ohio. 7-M-52

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate Coolers and Heaters, Homogenizers and Bottle Washers. Send us your requirements. Ohio Creamery and Supply Company, 701 Woodland Avenue, Cleveland 15, Ohio. 7-M-52

FOR SALE—1 Leffel Stoker for 25 or 30 hp. boiler. New tires installed in last 3 months. Reasonably priced. Call Hopewell Dairy, Bellefontaine, Ohio, Phone 5141. 7-M-52

FOR SALE—1 CP milk cooler — 3 sections—8' long, 12 tubes each. One section direct expansion, 2 water. Call Hopewell Dairy, Bellefontaine, Ohio, Phone 5141. 7-M-52

SUPER NOBURN Heater 6 tube by 10'; 3 SS inner tubes equipped with 1 hp., 3-phase 220 volt motor. Circulating pump and temperature controls. Hathaway Bottling Company, 717 W. 7th St., Sioux City 17, Iowa. 7-M-52

EQUIPMENT FOR SALE

FOR SALE—1600 GPH Manton-Gaulin Homogenizer. SS head; sanitary construction. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland 15, Ohio. 7-M-52

SALE—Ammonia compressors, 3 x 3, 4 x 4, 5 x 5. Also C-B Model 150 Churn, practically new, $75.00. C-P 6-valve automatic hand feed filler with practically new 56 mm. Seal-Kap capper; cheap to move. Two DeLaval E-29 Separators, marked down to $200.00. Old No. 32 separator good for parts, motor okay, $50.00. Make offer on DeLaval 136-142 clarifier-separator combination. Clarifier bowl needs factory reconditioning, otherwise in good condition. Can be seen in operation. Act now. Pennsylvania Dairy Supply Company, Doylestown 4250, Pa. 7-M-52

SALE—5 x 5—15 hp. Frick Ammonia Compressor, 3-phase, 60 cycle, 220-440 v.; and one Model 3-S-10 Cherry-Burrell Sweet Water Cooler. Make offer. Meadowbrook Dairy, Pottstown R.D. 1, Penna. 7-M-52

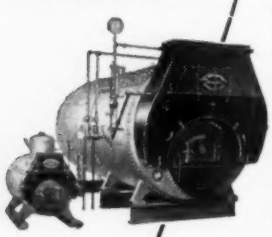
1000-1500 CASES for square squat bottles. One year old; $1.75 each. F.O.B. Butler. Also half-pint cases (30's), pint cases (20's) for round bottles $.75 each. Olson Farms, Inc., Box 870, Butler, Pa. 7-M-52

FOR SALE—Late Style 6-wide Creamery Package Jr. Soaker Washer, Serial No. 600. Excellent condition. Guaranteed. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland, Ohio. 7M-52

FOR SALE—Good selection of Pasteurizers, Coolers, Washers, Fillers, Homogenizers, Tanks, Pumps, etc. Send us your inquiries. Lester Kehoe Machinery Corporation, 1 East 42d St., New York 17, N. Y. 7-M-52

FOR SALE—Mojonnier SS Cabinet Cooler. 7 Panels, 24 Tubes each. Raw milk capacity 25,000 PPH. Excellent condition. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland, Ohio. 7-M-52

LEFFEL



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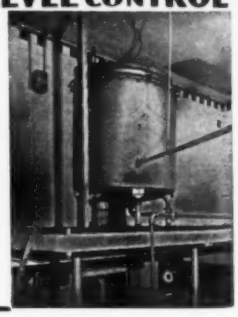

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FOR SALE—Completely rebuilt and guaranteed Viscolizers and Homogenizers. Rent a machine—rental allowed if purchased. Full details of our proposition on request. Otto Biefeld Co., Watertown, Wis. 7-M-52

FOR SALE—Specialty Brass Automatic Rotary Filler and Cappers for square half pints, quarts, oblong half-gallons, and gallons. Used one year. Manton-Gaulin Homogenizer, 125 gallon, SS head. Chester 6′ Cooler, just retinned. 2 Spec. Brass Milk Pumps, quarter horse. Two 100-gal. Pfaudler glass-lined Pasteurizers. Chester 30″ copper tinned Cooler with SS tank. Girton 3-compartment Case and Bottle Washer. Servel 2 hp. Compressor, water cooled. Blower Coil for 8 x 10 walk-in Cooler. Crystal Dairy, R. 2, Omro, Wash. 7-M-52

FOR SALE—Boilers, high or low pressure; smoke stacks; breechings; boiler tubes; pumps; motors; pipe, valves and fittings. Either new or used. SAVE MONEY—send us your inquiries. Otto Biefeld Co., Watertown, Wis. 7-M-52

PLANT FOR SALE

DAIRY FOR SALE—Located in central Florida. Plant is completely equipped except for homogenizer. 2 trucks; approximately 800 qts. per day; 20,000 trade area; dairy bar situated in concrete plant building. Can be had for $20,000; ½ cash, balance terms to responsible party. Beacon Farms, DeLand, Florida. 7-M-52

FOR SALE—Milk plant located in one of the fastest growing cities in the southwest. Population 30,000. Varied industries. Business grossed $150,000 last year. Terms to the right person. Reply to Box 260, care of this publication. 7-M-52

FOR SALE—Milk plant, new building and equipment, in southern Michigan. Wholesale and retail routes and dairy bar. Ideal for cash and carry. Reasonable. Write to Box 220, care of this publication. 7-M-52

FOR SALE — DAIRY. Retail routes cover 20-mile radius around prosperous Indiana town. Grossing $150,000 annually, netting a substantial profit from variety of dairy products. 90′ x 60′ concrete block plant building located in busy commercial district. Fully equipped. Property, equipment, trucks and goodwill offered at only $84,000. No. 26-NT3644. Chas. Ford & Assoc., Inc., Dept. 46, 10 N. Clark St., Chicago, Ill. 7-M-52

PLANT FOR SALE

FOR SALE—Milk plant approved for New York City and equipped for fluid milk, cream, and manufacturing. Reply to Box 262, care of this publication. 7-M-52

HELP WANTED

EXPERIENCED man wanted for a condensing plant in Pennsylvania. Mojonnier equipment. State experience. Reply to New York Office, 175 Franklin St., Meyer Zausner. 7-M-52

POSITION WANTED

POSITION WANTED as dairy sales representative. Ten years experience in selling dairy supplies and equipment. Fifteen years experience in all phases of dairy manufacturing. Family man. Will take any territory, mid-west preferred. Best References. Reply to Box 259, care of this publication. 7-M-52

POSITION WANTED as Plant Manager. Wide experience in all phases of the industry. Fluid milk, butter, cheese, ice cream. Personnel, and quality and production control. No bad habits; best of references. Reply to Box 261, care of this publication. 7-M-52

MISCELLANEOUS

Dairy Grape-ade is profitable. Your total cost 9c per quart. Write for sample. Bradway Chocolate, New Castle, Indiana. 7-M-52

ICE CREAM ADVERTISING MATERIAL—Wide variety of window and back bar displays and trims, posters and over-wire dominations; seasonal fruits; samples and prices. E. R. Quackenbush, 424 Fair St., Berea, Ohio. 7-M-52

Dairy Orange-ade base made from fresh oranges. Write for sample. Broadway Chocolate, New Castle, Indiana. 7-M-52

Chocolate Milk made from Bradway genuine chocolate powder or syrup is better. Write for sample to Bradway Chocolate, New Castle, Indiana. 7-M-52

PURE TREE RIPENED LIME JUICE, ORANGE JUICE OR TANGERINE JUICE FOR BETTER SHERBETS. Sample order, 12 Number 10 cans, any combination, only $15.00. Write to Florida Canners, Inc., Eustis, Florida. 7-M-52

MISCELLANEOUS

FOR SALE—Truck lettering and trademark decals made for your truck and store front advertising. Easy to apply, uniform, distinctive, economical for large or small needs. Write for catalog to the Mathews Company, 827 South Harvey Avenue, Oak Park, Illinois. 7-M-52

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THERMOMETERS—We repair Mercurial, Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings ship your thermometers to Nurnberg Thermometer Company, 124 Livingston Street, Brooklyn, New York. 7-M-52

BUFLOVAK APPOINTS DEMAREST

Edgar L. Demarest has been appointed the West Coast District Manager for the Buflovak Equipment Division of Blaw-Knox Company, nationally-known manufacturers of chemical and food processing machinery, milk dryers and evaporators. The Buflovak West Coast Office will continue to be at the same address, 1706 Broadway, Oakland 12, California.

●

W. G. SCHILLING, DIES

W. G. Schilling, president of S. and S. Products, Inc., Lima, Ohio died May 12th as the result of a fall in his home. Although Mr. Schilling had been in ill health for some time, his sudden death came as a shock and just two days after his return home from Florida.

Pioneers in the beverage cooler industry, S. and S. Products, Inc., was formed by father and son more than twenty-five years ago and he is widely known to the soft drink industry.

Mr. Schilling became president of the company when his father, J. M. Schilling, passed away four years ago.

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DAIRYMEN'S LEAGUE SALES POST

Raymond F. Peasback has returned as manager of the Advertising and Sales Promotion Department of the Dairymen's League Cooperative Association. This announcement was recently made by T. W. Greenway, general manager.

Mr. Peasback will direct the merchandising of the company's complete line of packaged products, including milk, cream, ice cream, cheese and manufactured products. For over twenty years now, Ray, as the trade knows him, has been associated with the milk and ice cream industries.

He was formerly the Advertising and Sales Manager of Vitex Laboratories. In 1945 he joined E. F. Drew & Co., as manager of a new division and while there, pioneered several new products for milk and ice cream.

DAIRYLEA brand products under Peasback's supervision will standardize on packaging and specific promotions; and in addition, several new consumer items will soon be placed on the market.

HOW GOOD IS BUTTERFAT?

(Continued from Page 14)

sirable from the standpoint of public health and must be avoided. There is not room here to discuss adequately the importance of sustaining a high level of milk production to our national health and economy. Therefore, a paper which follows will discuss that subject in detail.

In order to avert serious decrease in milk production, the industry might consider reshaping its economic structure. By so doing, it can meet economic competition on economic grounds.

If the nonfat portion of milk bears a share of the cost the milk production comparable to its relative nutritive value, two things can be accomplished to meet competition: 1) the price of butterfat can be lowered to the extent of improving its economic position with respect to other dietary fats; at the same time, 2) the price of nonfat solids can be increased to reduce the economic advantage enjoyed by the manufacturers of processed foods who utilize those solids in combination with vegetable fat and in competition with dairy foods containing standard levels of butterfat.

Such a procedure would appear to have no effect on the cost of whole milk to the consumer nor on the economic relationships of the milk producer and processor. The consumer, the dairy industry, and our national agricultural economy will benefit because milk production can be maintained at desirable levels. Certainly, the time has come for all of us to recognize clearly the basic economic and nutritional value of both butterfat and nonfat milk portions and their mutual dependency at their primary source.

STERLING ELECTRIC APPOINTS

Sterling Electric Motors, Inc. of Los Angeles has recently opened a sales office in Baltimore, Maryland according to Alan J. Bronold, Sales Vice-President.

E. Stephen Farlow has been appointed manager of the Baltimore office. A graduate of the University of Maryland, Mr. Farlow has wide experience in the electrical field. He is prepared to render application engineering service to the industrial, commercial and agricultural requirements of the area.

The Baltimore territory was formerly served by the Philadelphia office. The Baltimore office will, however, continue to report to Philadelphia for administrative direction under William L. Pharmer, District Manager.

Sterling has, at present, five plants and over 400 distributors, engineering sales offices and representatives. The Baltimore office, located at 1658 Roundhill Road, is the newest addition to Sterling's national program for expansion of its service facilities.

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THIRTEEN HEIFERS FLOWN TO SOUTH AMERICA

Thirteen heifers from Abbotts Locust Grove Farms in Westville, New Jersey are playing an important part in our good neighbor policy with South America—though they probably don't realize it. On May 29th, the registered purebreds were flown to Bogota, Colombia to the dairy farm of Gustavo Pradilla who was on hand to see them off in the C-46 plane sent up for the trip by the Aerovias Sud American Air Lines. The flight was made from the Northeast Airport in Philadelphia and cost Pradilla approximately 40c per pound of animal weight.

Joseph Broadhurst who manages the Locust Grove Farms for Abbotts Dairies said Pradilla bought the heifers to use for breeding purposes to improve his own herd.

It was a group of thirteen excited animals making their first flight, and occasional tug-o-wars took place before some of the heifers could be coaxed down the ramp attached to the truck to the "air-lift stall" which raised them to the cabin of the plane. On the other hand, some appeared quite eager and fairly dived completely over the ramp to the delight of the crowd assembled at the airport to watch the event.

Airport officials said the heifers would arrive at their new home in twenty-four hours, stopping first at St. Petersburg, Florida and Venezuela.

INDUSTRY PROBLEMS

(Continued from Page 36)

The foam test is conducted by heating a small piece of the suspected material in a spoon or other small receptacle over a flame until it boils vigorously. Oleomargarine will sputter and crackle noisily and form little foam; butter produces much foam and little noise.

The Waterhouse test requires that three to five grams of the sample be placed in a cup half filled with skim milk which has been heated to 180° F. It is stirred until the fat is melted completely and then cooled by placing the vessel in ice water. It must be stirred with a wooden paddle continuously during the cooling process until the fat is completely hardened. Oleomargarine will collect in a sticky lump but butter will form grains which remain separate.

While these are the commonly used tests, they are not infallible. It is possible to produce oleomargarines which would not give the typical reactions. Where cases are liable to reach the courts it is well to be supported by an actual chemical analysis of the fat in question, an extremely laborious procedure.

IMPROVED BABCOCK TEST

(Continued from Page 59)

determinations is limited only by the centrifuge capacity.

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INDEX OF ADVERTISERS

PAGE

A

Alloy Products Corp. 69
American Seal-Kap Corp. 1
Ames Iron Works 72

B

Barker Equipment Co. 49
Buckingham Mfg. Co. 70
Buflovak Division of Blaw-Knox Co. 4

C

Cherry-Burrell Corp. ..... Inside Front Cover, 67, 73
Chocolate Products Co. 57
Continental Oil Co. 8
Corning Glass Works 6
Creamery Package Mfg. Co. 77
Crown Cork & Seal Co. 5
Cumberland Case Company 7

D

Dairy Credit Bureau 77
Dairy Industries Supply Assoc., Inc. 72
Dairy Laboratories, The 74
De Laval Separator Co., The ..... Back Cover
Dietrich Supply Corp. 63
Diversey Corp. 19
Dole Refrigerating Co. 65

E

Econ-o-Seal Co. 33, 34
Efsco Products Co. 63
Exterminator Corp. of America 27

F

Flavor-Line, Inc. 74
Flour City Brush Co. 70
Forbes Company, Benjamin P. 80
Friden Calculating Machine Co., Inc. 23
Fruehauf Trailer Co. 43

G

Gair Company, Inc., Robert 81
Girton Mfg. Co. 35
Grant Paper Box Co. 76
Gundlach Co., G. P. 54

H

Hansen's Laboratory, Chr. 63
Haynes Manufacturing Co., The 66
Heil Co., The 15

J

Johnson Company, Gordon 76

PAGE

K

Kendall-Lamar Corporation 48
Kent Ice Machine Co. 48
Kleenette Mfg. Co. 79
Kurly-Kate Corporation 52

L

James Leffel & Co., The 78
Liberty Glass Co., The 37
Lily Tulip Cup Corp. ..... Inside Back Cover
Lumenite Electronic Co. 78

M

Manton Gaulin Manufacturing Company, Inc. 51
McGlaughlin Oil Co. 75

O

Overton Machine Co. 64

P

Paperlynen Co. 68
Pfaudler Company, The 39
Pure Farms Milk Products, Inc. 38
Pure-Pak Division, Ex-cell-o Corp. 2-3
Purity Manufacturing Co., Inc. 71

R

Reynolds Electric Co. 62
Rice & Adams Equipment Division (Pressed Steel Car Co. 29

S

Sharples Corporation, The 61
Solar-Sturges Mfg. Div. (Pressed Steel Car Corp.) 55
Solvay Sales Div. (Allied Chemical & Dye Corp.) 59
S & S Products, Inc. 75

T

Thatcher Glass Manufacturing Co., Inc. 21
Treen Box Co. 68

U

United Steel & Wire Company 47

V

Vitex Laboratories (A division of Nopco) 24-25

W

Waukesha Foundry Co. 31